500 PENNSYLVANIA AVENUE

Quadplex Multifamily Condominiums

5 / 26 / 24 - PERMITS / BIDDING

INGHAM COUNTY LANDBANK

TODD R. CALLAWAY & ASSOCIATES
ARCHITECTS - DESIGNERS

4848 Freer Street, Rochester Hills, Michigan 48306 586-243-5945,
trcallaway@hotmail.com, www.trcallaway.com

COVER SHEET

INGHAM COUNTY LAND BANK

POINTE EAST CONDOMINIUM'S

500 BLOCK S. PENNSYLVANIA

LANSING, MI 48912

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF LANSING.
2. THE CONTRACTOR SHALL NOTIFY "MISS DIG" AT LEAST THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
3. THE CONTRACTOR SHALL NOTIFY THE CITY OF LANSING'S OFFICE OF ENGINEERING 48 HOURS PRIOR TO THE START OF CONSTRUCTION OF PUBLIC UTILITIES OR CONSTRUCTION IN THE STREET RIGHT-OF-WAY.
4. HANDICAPPED PARKING SPACES SHALL BE IDENTIFIED WITH THE INTERNATIONAL SYMBOL.
5. ACCESS TO A STRUCTURE SHALL BE PROVIDED FOR THE PHYSICALLY HANDICAPPED.
6. ONSITE PARKING SHALL BE PROVIDED FOR CONSTRUCTION WORKERS.
7. AN AS-BUILT PLANS SHALL BE SUBMITTED TO THE CITY OF LANSING PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT OR RELEASE OF SURETY'S BOND.
8. ALL POTENTIAL UTILITY CONFLICTS MUST BE PHYSICALLY DETERMINED PRIOR TO THE START OF CONSTRUCTION OF UTILITIES. A CITY OF LANSING INSPECTOR MUST BE PRESENT.
9. FIRE LANES SHALL BE DESIGNED AND CONSTRUCTED PER THE CITY OF LANSING STANDARDS.
10. FOUR-FOOT WIDE SIDEWALKS SHALL BE PROVIDED 2.5 FEET OFF OF THE PROPERTY LINE WITHIN THE RIGHTS-OF-WAY, UNLESS A SIDEWALK EASEMENT IS PROVIDED FOR A MEANDERING SIDEWALK OR AN ALTERNATIVE DESIGN IS APPROVED BY THE CITY. BARRIER-FREE RAMPS, PER THE CITY OF LANSING STANDARDS, SHALL BE PROVIDED ON SIDEWALKS AT ALL CURB CROSSINGS.
11. MECHANICAL UNITS, DUMPSTERS, AND TRASH COMPACTORS SHALL BE SCREENED IN ACCORDANCE WITH THE ZONING ORDINANCE.
12. ALL SIGNAGE CONTINGENT UPON APPROVAL BY THE CITY OF LANSING.
13. ALL ELECTRICAL TRANSMISSION, DISTRIBUTION, AND SERVICE LINES SHALL BE UNDERGROUND.
14. USES SHALL CONFORM IN OPERATION, LOCATION, AND CONSTRUCTION TO THE CITY OF LANSING STANDARDS FOR NOISE, SMOKE AND PARTICULATE MATTER, ODOROUS MATTER, FIRE OR EXPLOSIVE HAZARD MATERIAL, TOXIC AND NOXIOUS MATTER, VIBRATION, AND/ OR OTHER PERFORMANCE STANDARDS.

PROJECT SCOPE

PROJECT STATEMENT:
THE PROPERTY IS LOCATED AT 500 BLOCK OF PENNSYLVANIA AVENUE, IN LANSING MICHIGAN 48906. THE 0.217-ACRE SITE IS ZONED R-MX MIXED RESIDENTIAL. THE PROPOSED QUADPLEX MULTIPLE FAMILY (TOWNHOUSE) CONDOMINIUM IS A PRINCIPAL PERMITTED USE. THE PROPOSED MULTIPLE FAMILY CONDOMINIUMS MUST COMPLY WITH THE REGULATIONS SPECIFIED IN CHAPTER 1244.12, R-MX MIXED RESIDENTIAL, AND BUT NOT LIMITED TO , THE FOLLOWING REGULATIONS:

•CHAPTER 1250 - GENERAL PROVISIONS
•CHAPTER 1252 - LANDSCAPING
•CHAPTER 1254 - PARKING

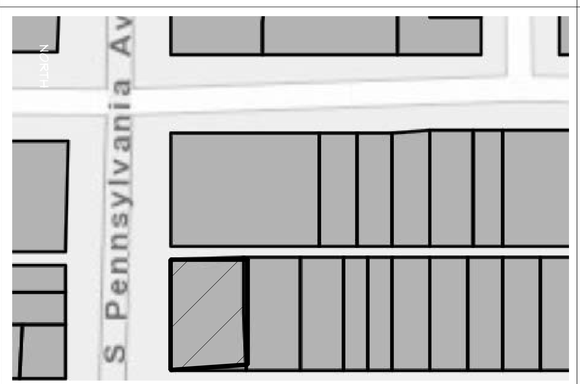
THIS IS NOT A BROWNFIELD SITE AND STORM WATER WILL BE DISCHARGED ONSITE. THIS SITE IS SUBJECT TO THE CONDITIONS AND DEVELOPMENT LIMITATIONS OF LIGHT INDUSTRIAL SPECIFICATIONS.

PROJECT TEAM

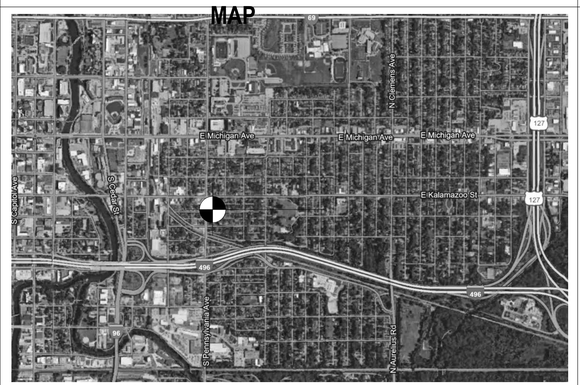
OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD
LANSING, MICHIGAN

ENGINEER:
C&A ENGINEERING, LLC
10722 CORKERY LN GRAND LEDGE, MI 48837
CAENGINEERLLC@CAENGINEERSLLC.COM
517-898-8152

SITE MAP



VICINITY MAP



PROJECT SHEET INDEX

ADDITIONAL DOCUMENTS & REQUIREMENT

GEOTECHNICAL INVESTIGATION / SOIL REPORT

REPORT ENTITLED GEOTECHNICAL REPORT FOR INGHAM COUNTY LAND BANK, PREPARED BY PROFESSIONAL SERVICES INDUSTRY (PSI), PROJECT GEOTECHNICAL ENGINEER, IS PART OF THE CONSTRUCTION DOCUMENTS. ALL WORK MUST COMPLY WITH SOIL REPORT REQUIREMENTS & RECOMMENDATIONS, THE MICHIGAN BUILDING CODE, AND ALL OTHER APPLICABLE CODES & ENFORCED BY LOCAL JURISDICTION.

MICHIGAN ENERGY CODE COMPLIANCE

MICHIGAN ENERGY CODE COMPLIANCE SERVICE PROVIDED BY CUSTOM HOME ENERGY SERVICES-, PO BOX 237, BATH, MI 48808, DATED TBD, IS PART OF THE CONSTRUCTION DOCUMENTS. ALL WORK MUST COMPLY WITH ENERGY REPORT REQUIREMENTS & RECOMMENDATIONS, MICHIGAN ENERGY CODE, & ALL OTHER APPLICABLE CODES & ORDINANCES AS ADOPTED, AMENDED, & ENFORCED BY LOCAL JURISDICTION.

COORDINATE WITH STRUCTURAL ENGINEER

COORDINATE WITH ENGINEER TO PROVIDE REQUIRED NOTICE & TO SCHEDULE MANDATORY CONSTRUCTION OBSERVATION. PROVIDE ENGINEER WITH MINIMUM 48 HOURS ADVANCE NOTICE AND THE OPPORTUNITY TO BE PRESENT FOR ANY & ALL SITE VISITS & CONSTRUCTION OBSERVATION ATTENDED BY THE ENGINEER. SUBMIT ALL REQUESTS FOR INFORMATION TO ENGINEER, COPY ALL CORRESPONDENCE WITH PROJECT MANGER AND ALL OTHER PROFESSIONAL CONSULTANTS.

CONSTRUCTION OBSERVATION REQUIRED

GENERAL CONTRACTOR IS REQUIRED TO SCHEDULE & COORDINATE THE FOLLOWING MANDATORY CONSTRUCTION OBSERVATION SITE VISITS WITH ENGINEER PRESENT. PROVIDE NOTICE TO ENGINEER AT LEAST 48 HOURS PRIOR TO SUCH VISITS. PRIOR TO BEGINNING WORK, PROVIDE ENGINEER & OWNER WITH A CRITICAL PATH SCHEDULE SHOWING THE FOLLOWING CONSTRUCTION MILESTONES:

1. SITE VISIT MILESTONE
2. GRADING
3. STORM WATER/WASTE WATER PRE CONSTRUCTION SITE MEETING
4. COMPLETION OF STORM WATER (RAIN GARDEN) CONSTRUCTION
5. UTILITY PRE CONSTRUCTION SITE MEETING
6. COMPLETION OF STORM WATER CONSTRUCTION
7. SOIL EROSION INSPECTION SITE MEETINGS AS NEEDED

AGENCY REFERRALS

ZONING
PLANNING & ZONING
316 N CAPITAL AVE, SUITE D
LANSING, MI 48933
PH: (517) 483-4066

FIRE
LANSING FIRE DEPT.
316 N CAPITOL AVE, SUITE C
LANSING, MI 48933
PH: (517) 483-4105

EROSION CONTROL
PUBLIC SERVICE
124 W. MICHIGAN AVENUE
7TH FLOOR CITY HALL
LANSING, MI 48933
PH: (517) 483-4455

ELECTRIC
LANSING BWL
1232 HACO DR,
LANSING, MI 48912
PH: (517) 702-6006

GAS
CONSUMERS ENERGY
1 ENERGY PLAZA DR,
JACKSON, MI 49201
PH: 800-805-0490

ROADWAY
2700 PORT LANSING RD,
LANSING, MI 48906
PH: (517) 335-3754

REVISION TABLE

REVISED BY	DATE

C & A ENGINEERS, LLC
10722 CORKERY LN
GRAND LEDGE, MI 48837
P: 517.898.8152 E: www.caengineersllc.com

INGHAM COUNTY LAND BANK
POINTE EAST CONDOMINIUM'S
500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

COVER SHEET

OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

DATE:
5/24/2024

SCALE:

SHEET NO:
CS.1

EXISTING SITE LAYOUT

SITE DATA

PROJECT ADDRESS: 500 BLOCK OF PENNSYLVANIA AVE LANSING MI 48906
OWNER: INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

PARCEL#: 33-01-01-15-378-044, 33-01-01-15-378-043;

LEGAL DESCRIPTION: LOTS 20 & 21 BLOCK 6 LANSING IMPROVEMENT COMPANYS ADD SPLIT/ COMBINED ON 11/14/2022 FROM 33-01-01-15-378-044, 33-01-01-15-378-043;

ZONING: R-MX
PROPOSED ZONING: R-MX
LOT AREA: 0.218 ACRES±
UNITS: 4
BLDG. AREA: 4,679 SQ.FT.
STORIES: 2
CONSTRUCTION TYPE: VB
FIRE SPRINKLERS: NO
BUILDING HEIGHT: 26'-4" FT
PARKING: PARKING PROVIDED: 8 SPACES
DIMENSIONS: 10' W X 20' L
*MINIMUM DRIVE AISLE: 24'

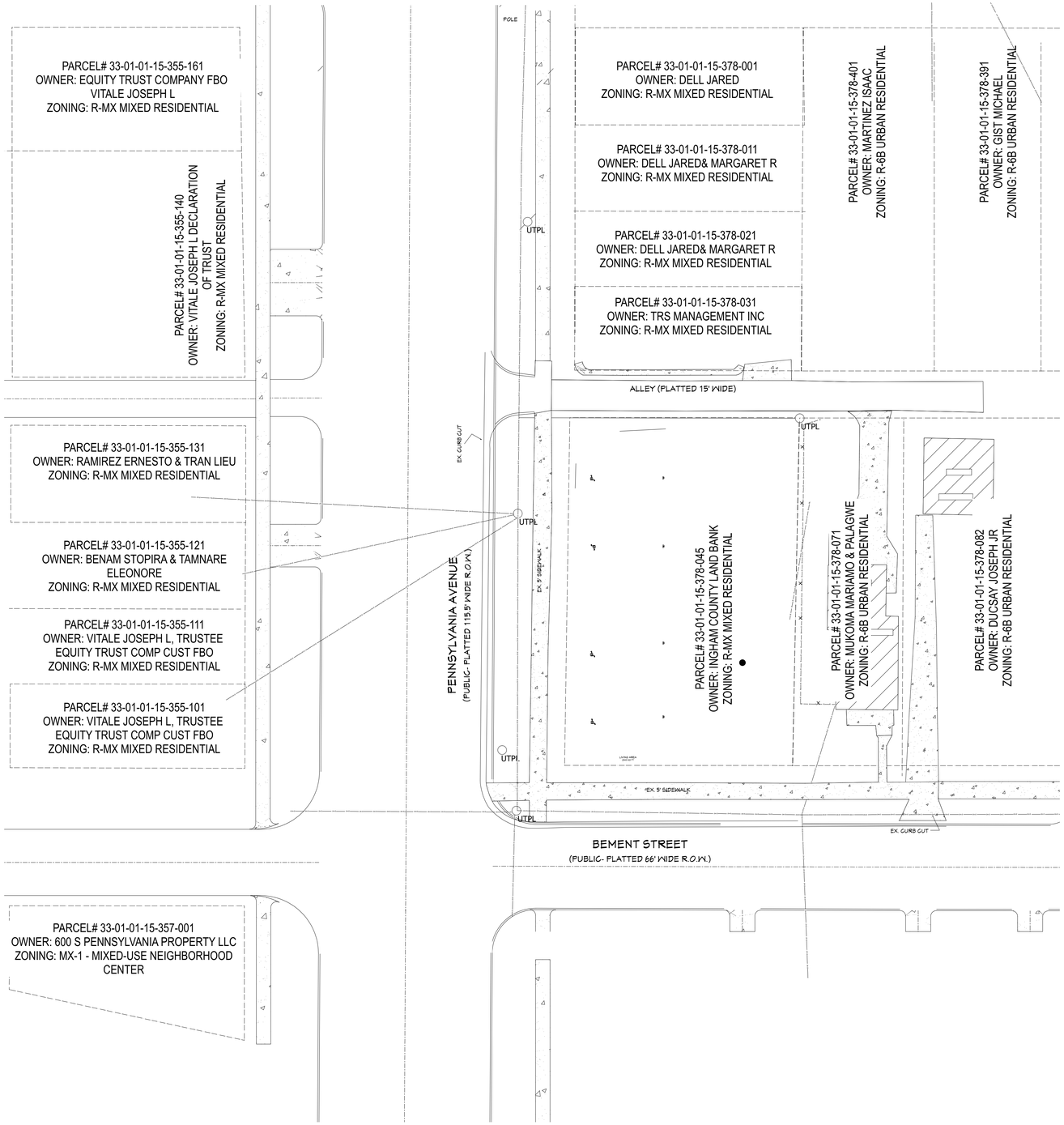
SITE REQUIREMENTS

ACCORDING TO CURRENT CITY ZONING ORDINANCE
THIS PROPERTY IS CURRENTLY ZONED "R-MX"

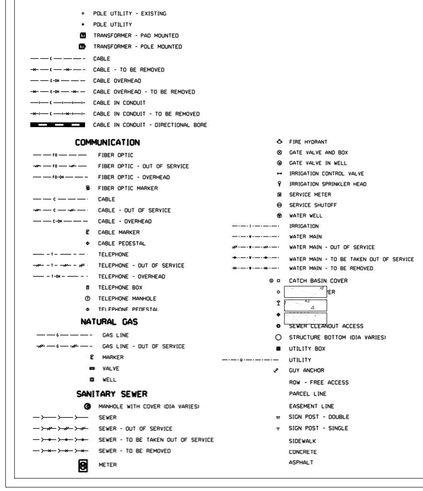
(a) BUILDING MASSING		
A. Minimum Height	20'	2 Stories
B. Maximum Height:	45'	4 Stories

(b) BUILDING PLACEMENT	
C. Front Setback	20'
D. Minimum Side Setback	5';, total of two side yards 15'
E. Minimum Rear Setback	30'
Minimum Lot Size (per dwelling unit)	Efficiency: 1200 sq. ft. 1-bdrm: 1300 sq. ft., 2 bdrm: 1500 sq. ft., 3+ bdrms: 2200 sq. ft.
F. Lot Width – min., max.	40' – 60'
G. Lot Depth – min., max.	150' – 200'
Maximum Lot Coverage	Total Impervious Surfaces 65% Building Coverage 45%

(c) PARKING	
Parking	See Chapter 1254 for parking standards. Parking permitted in rear or side yard. Property and Parking Lot Setback / Screening per Chapter 1252
H. Garages	Rear yard or along alley



LEGEND



PROJECT NARRATIVE

THE PROPERTY IS LOCATED AT 400 BLOCK OF PENNSYLVANIA AVENUE, IN LANSING MICHIGAN 48906. THE 0.218-ACRE SITE IS ZONED R-MX MIXED RESIDENTIAL. THE PROPOSED QUADPLEX MULTIPLE FAMILY (TOWNHOUSE) CONDOMINIUM IS A PRINCIPAL PERMITTED USE. THE PROPOSED MULTIPLE FAMILY CONDOMINIUMS MUST COMPLY WITH THE REGULATIONS SPECIFIED IN CHAPTER 1244.12, R-MX MIXED RESIDENTIAL, AND BUT NOT LIMITED TO , THE FOLLOWING REGULATIONS:

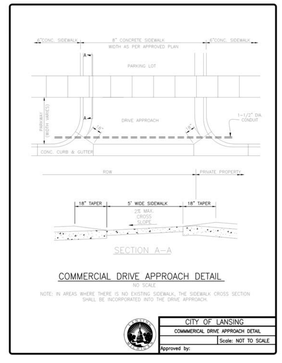
- CHAPTER 1250 - GENERAL PROVISIONS
- CHAPTER 1252 - LANDSCAPING
- CHAPTER 1254 - PARKING

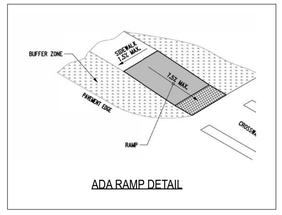
STORMWATER

THE PROPERTY CURRENTLY HAS ACCESS TO WATER, ELECTRIC AND SANITARY SEWER SERVICES. THE SITE IS NOT CONNECTED TO ANY STORMWATER SEWER. THE PROPOSED NEW CONSTRUCTION, LAND DISTURBANCE AND ADDITION OF PAVEMENT WILL INCREASE RUNOFF FROM THE SITE, ALL STORMWATER WILL BE COLLECTED AND CONTAINED ON SITE (RAIN GARDEN) AND THEN DISCHARGED TO CITY STORMWATER SYSTEM.

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS PROVIDED BY SCCMUA. THE SURVEYOR AND/OR ENGINEER MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR AND/OR ENGINEER FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR AND/OR ENGINEER HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.





ADA RAMP DETAIL

C & A ENGINEERS, LLC
10722 CORKERY LN
GRAND LEDGE, MI 48837
P: 517.599.3152 E: www.usengineersllc.com

INGHAM COUNTY LAND BANK
POINTE EAST CONDOMINIUM'S
500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

EXISTING SITE LAYOUT

OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

DATE:
5/24/2024

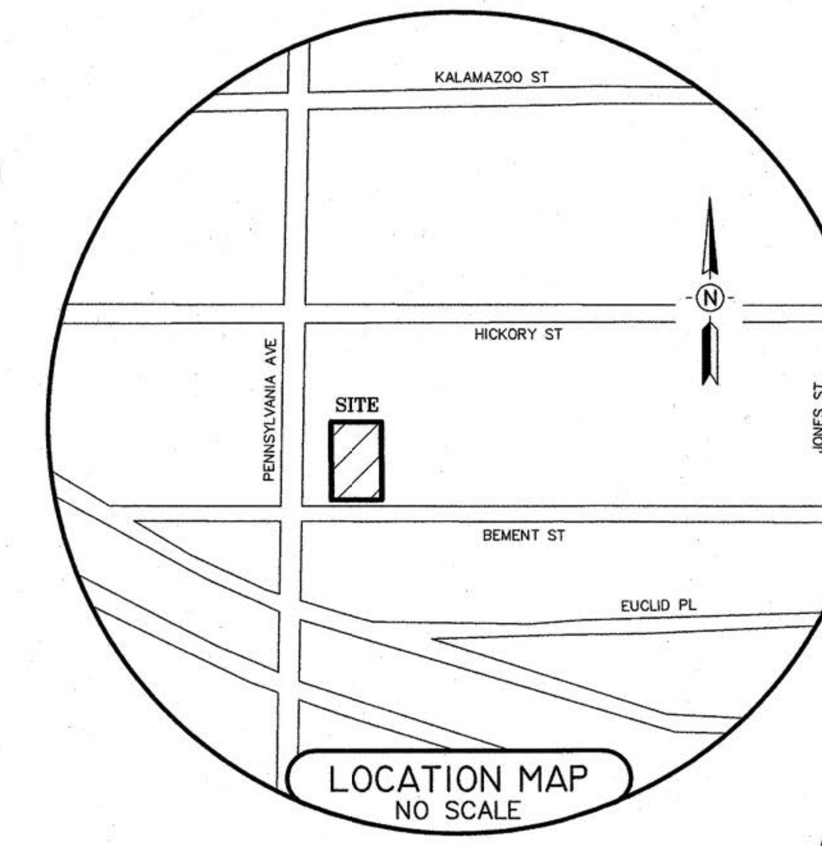
SCALE:
1" = 20'

SHEET NO:
CS.2

LOT & TOPOGRAPHIC SURVEY

"VACANT- S. PENNSYLVANIA AVE, LANSING, MI 48912"

FOR: INGHAM COUNTY LAND BANK



SCALE 1" = 20'

0' 20' 40' 60'

LEGAL DESCRIPTION:

(As provided)
TAX ID: 33–01–01–15–378–045
Lots 20 and 21, Block 6, Lansing Improvement Company's Addition, City of Lansing, Ingham County, Michigan, according to the recorded plat thereof, as recorded in Liber 2 of Plats, Page 14, Ingham County Records.

SURVEYOR'S NOTES:

1. This plan was made at the direction of the parties named hereon and is intended solely for their immediate use. Survey prepared from fieldwork performed in December 2023.

2. All bearings are Michigan State Plane South Zone grid bearings obtained from GPS observations using corrections obtained from the nearest National Geodetic Survey C.O.R.S. station.

3. All dimensions shown are as–measured unless otherwise noted.

4. All elevations are North American Vertical Datum of 1988 (NAVD88).

5. All dimensions are in feet and decimals thereof.

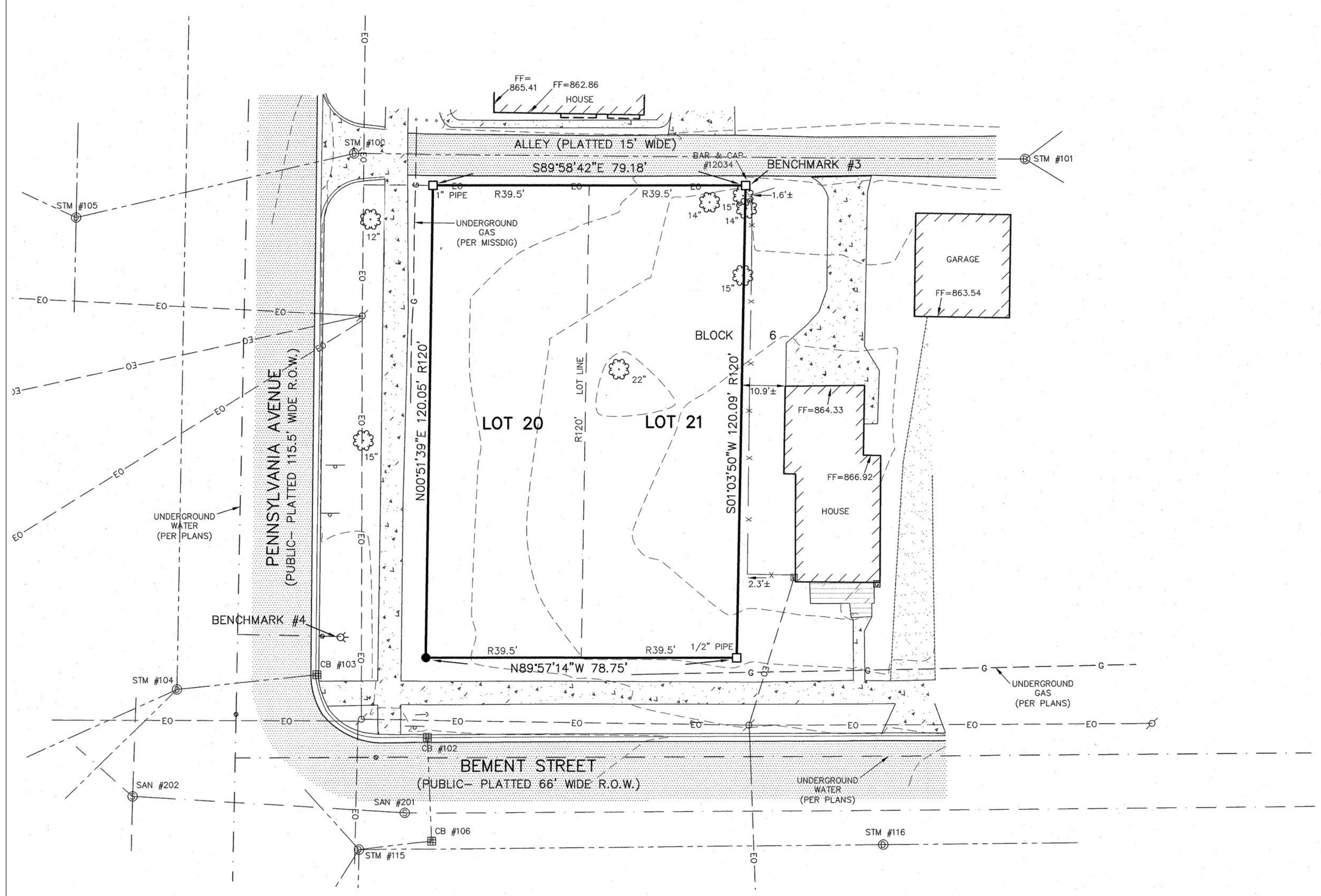
6. No building tie dimensions are to be used for establishing the property lines.

7. Easements, if any, not shown hereon.

8. By scaled map location and graphic plotting only, this property lies entirely within Flood Zone "X", areas outside the 0.2% annual chance floodplain, according to the National Flood Insurance Program, Flood Insurance Rate Map for the City of Lansing, Ingham County, Michigan, Community Panel No. 260090 0131 D, dated August 16, 2011.

9. Utility information as shown was obtained from available public records and from supporting field observations, where possible, and is subject to verification in the field by the appropriate authorities prior to use for construction. In addition, this parcel was marked by MISS DIG Ticket No. 2023120401904. MISS DIG positive response shows markings were completed by AT&T Telephone for underground telephone, Consumers Energy for underground gas, Lansing City Public Service for sanitary sewer and storm sewer, and Metro Fibernet, LLC, Sprint, and Windstream Communications for fiber optic. Utility markings actually found on site by the field crew were: gas lines.

10. Wetlands, if any, not shown hereon.



LEGEND

- (M) = MEASURED DIMENSION
- (R) = RECORDED DIMENSION
- ● = SET 1/2" BAR WITH CAP UNLESS NOTED
- ◻ = FOUND IRON AS NOTED
- = DEED LINE
- = DISTANCE NOT TO SCALE
- = FENCE
- = ASPHALT
- = CONCRETE
- = GRAVEL
- 860 = EXISTING CONTOUR ELEVATION
- = BUILDING OVERHANG
- = SANITARY SEWER
- = STORM SEWER
- = WATER LINE
- G = GAS LINE
- EO = OVERHEAD WIRES
- = DECIDUOUS TREE
- Ⓢ = SANITARY MANHOLE
- Ⓓ = DRAINAGE MANHOLE
- = FIRE HYDRANT
- = CATCH BASIN
- = VALVE
- = SIGN
- = POST
- = UTILITY POLE
- = LIGHT POLE
- = GUY WIRE
- = ELECTRIC METER

SEWER INVENTORIES

STORM MANHOLE #100
RIM – 861.32
12" RCP E – 856.24
12" RCP SW – 856.06

STORM MANHOLE #101
RIM – 861.69
12" RCP W – 856.89
12" RCP NE – 858.59
12" RCP SE – 858.50

CATCH BASIN #102
RIM – 860.47
12" RCP S – 857.63

CATCH BASIN #103
RIM – 860.31
6" CPP W – 855.58

STORM MANHOLE #104
RIM – 860.43
6" CPP E – 852.53
15" RCP SW – 852.60
30" RCP SW – 849.75
30" RCP N – 849.85

STORM MANHOLE #105
RIM – 861.12
12" RCP NE – 855.37
15" RCP N – 851.88
15" RCP S – 851.85
8" PVC NW – 855.50

CATCH BASIN #106
RIM – 860.19
12" RCP N – 857.42
12" RCP SW – 857.37

STORM MANHOLE #115
RIM – 860.37
10" RCP NE – 857.33
15" VCP E – 852.38
12" RCP S – 853.10
10" RCP SW – 856.77
18" RCP NW – 852.14

STORM MANHOLE #116
RIM – 862.00
12" VCP E – 853.99
12" VCP W – 853.92

SANITARY MANHOLE #200
RIM – 866.59
8" RCP W – 855.75
8" RCP SE – 855.79

SANITARY MANHOLE #201
RIM – 860.38
8" RCP E – 849.68
8" RCP W – 849.64

SANITARY MANHOLE #202
RIM – 860.38
8" RCP E – 847.98
8" RCP N – 847.99
8" RCP S – 847.88
8" RCP NW – 847.99

BENCHMARKS

BENCHMARK #3 ELEV. = 863.62 (NAVD88)
SET PK NAIL IN NORTH SIDE OF LIGHT POLE, SOUTH SIDE OF ALLEY NEAR NORTHEAST PROPERTY CORNER, ±2.5' SOUTH OF SOUTH EDGE OF ASPHALT OF ALLEY

BENCHMARK #4 ELEV. = 862.51 (NAVD88)
TOP SOUTHEAST FLANGE BOLT OF HYDRANT ABOVE "W" IN "WATEROUS", NORTHEAST QUADRANT OF PENNSYLVANIA AND BEMENT, ±4.5' EAST OF EAST BACK OF CURB OF PENNSYLVANIA

STATE OF MICHIGAN ★ ERICK ROY FRIESTROM PROFESSIONAL SURVEYOR LICENSE NO. 4001053497 ★ LICENSED PROFESSIONAL SURVEYOR

01-11-2024

ERICK R. FRIESTROM DATE
PROFESSIONAL SURVEYOR NO. 53497

REVISIONS	COMMENTS
01/11/2024	ORIGINAL

KEBS, INC. ENGINEERING AND LAND SURVEYING
2116 HASLETT ROAD, HASLETT, MI 48840
PH. 517–339–1014 FAX 517–339–8047
WWW.KEBS.COM
Marshall Office – Ph. 269–781–9800

DRAWN BY AN	SECTION 15, T4N, R2W
FIELD WORK BY NW	JOB NUMBER: 102096.LOT
SHEET 1 OF 1	

REVISION TABLE	
REVISED BY	DATE

C & A ENGINEERS, LLC
10722 CORKERY LN
GRAND LEDGE, MI 48837
P: 517.898.8152 E: www.caengineersllc.com

INGHAM COUNTY LAND BANK
POINTE EAST CONDOMINIUM'S
500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

SURVEY

OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

DATE:
5/24/2024

SCALE:

SHEET NO:
S.1

PROPOSED SITE PLAN

SITE DATA

PROJECT ADDRESS: 500 BLOCK OF PENNSYLVANIA AVE LANSING MI 48906
OWNER: INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

PARCEL#: 33-01-01-15-378-044, 33-01-01-15-378-043;

LEGAL DESCRIPTION: LOTS 20 & 21 BLOCK 6 LANSING IMPROVEMENT COMPANYS
ADD SPLIT/COMBINED ON 11/14/2022 FROM 33-01-01-15-378-044, 33-01-01-15-378-043;

ZONING: R-MX
PROPOSED ZONING: R-MX
LOT AREA: 0.218 ACRES±
UNITS: 4
BLDG. AREA: 4,679 SQ.FT.
STORIES: 2
CONSTRUCTION TYPE: VB
FIRE SPRINKLERS: NO
BUILDING HEIGHT: 26'-4" FT
PARKING: PARKING PROVIDED: 8 SPACES
DIMENSIONS: 10' W X 20' L
*MINIMUM DRIVE AISLE: 24'

FLOOD PLAIN NOTES:

PROPERTY SHOWN HEREON IS NOT LOCATED IN A FLOOD ZONE PER MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE). THIS SURVEYOR/ENGINEER MAKES NO GUARANTEES AS TO THE ACCURACY OF THE ABOVE INFORMATION.

SANITARY SEWER & WATER NOTE:

THE SITE CURRENTLY DOES NOT HAS EXISTING WATER SERVICE AND SANITARY SEWER, HOWEVER THE SITE HAS ACCESS TO BOTH WATER AND SEWER .

ENGINEERS NOTES:

THE CURRENT ZONING AS EVIDENCED BY THE CITY IS "R-MX" PER OBSERVATION, THIS SITE IS EITHER CURRENTLY HAS ACCESS TO THE FOLLOWING PUBLIC UTILITIES; SANITARY SEWER GAS, ELECTRIC, AND TELEPHONE. EITHER LOCATED ADJACENT TO THE SUBJECT SITE OR WITHIN PUBLIC RIGHT-OF-WAY.

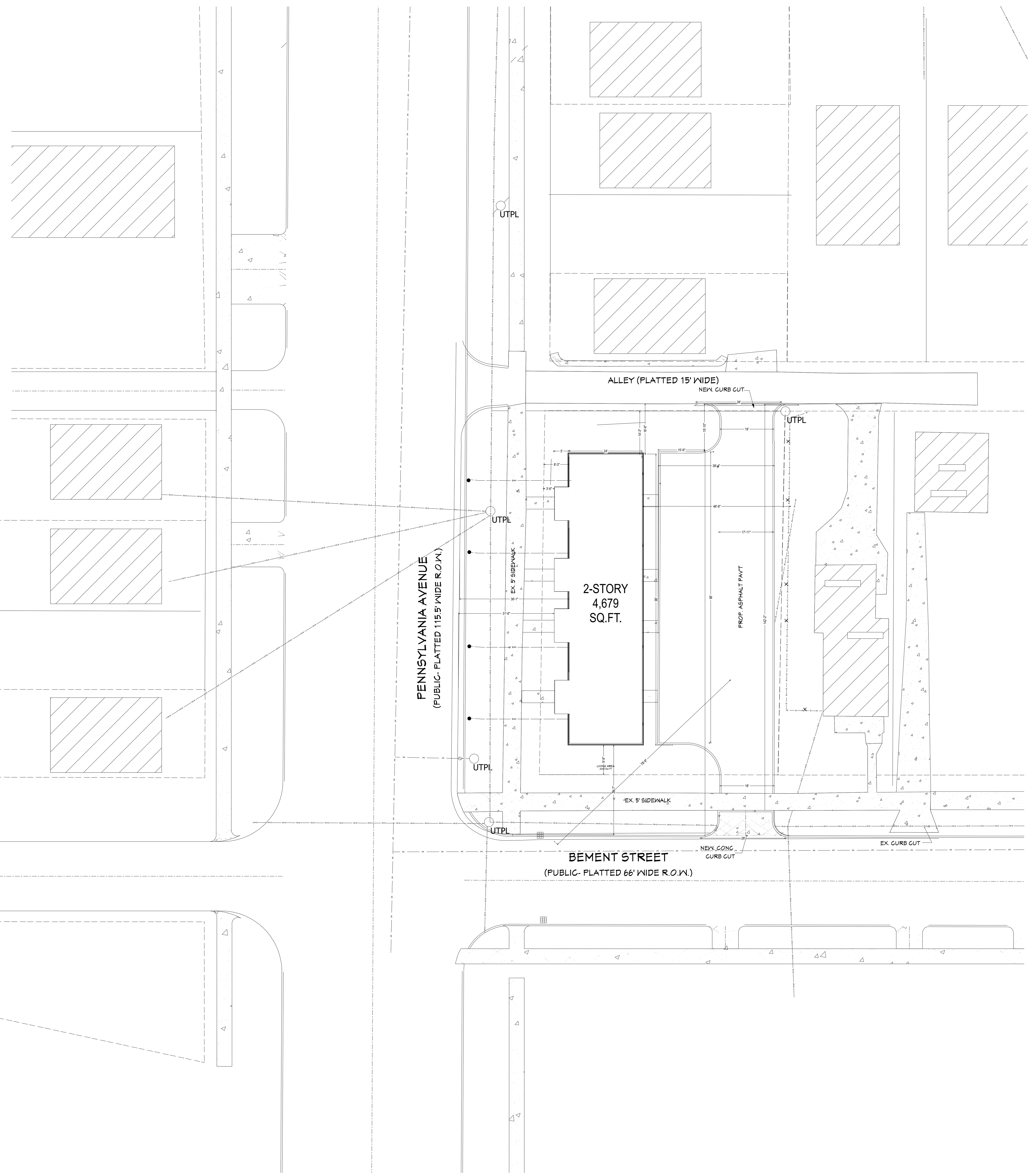
CITY OF LANSING NOTES

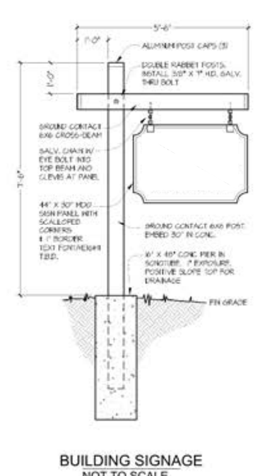
ALL BROKEN AND DAMAGED SIDEWALK ALONG THE PROPERTY R.O.W. SHALL BE REMOVED AND REPLACED BY OWNER. ALL EXISTING SIDEWALK ON THE PROPOSED SITE DETERMINED TO NOT BE ADA COMPLIANT SHALL BE REMOVED AND REPLACED BY OWNER. SIDEWALK REPLACEMENT SHALL BE ACCORDING TO DETAILS SPECIFIED IN THE PLANS AND THE CITY OF LANSING STANDARDS

THE CONTRACTOR SHALL OBTAIN A CITY PERMIT FOR ALL ROAD CUTS WHICH WILL BE BACK FILLED PER CITY STANDARDS TO THE BASE COURSE COMPACTED FINISHED GRADE.

CONTRACTOR SHALL OBTAIN CITY PERMIT FOR ALL CONCRETE WORK INCLUDING CURB AND GUTTER, DRIVE APPROACHES AND SIDEWALKS.

THE CONTRACTOR MUST CONTACT THE CITY OF LANSING, TO SECURE THE REQUIRED PERMITS AND BONDS PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR MUST FOLLOW ALL REQUIREMENTS IN THE PERMIT, UTILIZING MAINTAINING TRAFFIC TYPICALS,REQUIRED AND THE PROPER CONSTRUCTION TRAFFIC SIGNING.





LEGEND

- POLE UTILITY - EXISTING
- POLE UTILITY
- TRANSFORMER - PAD MOUNTED
- TRANSFORMER - POLE MOUNTED
- CABLE
- CABLE - TO BE REMOVED
- CABLE OVERHEAD
- CABLE OVERHEAD - TO BE REMOVED
- CABLE IN CONDUIT
- CABLE IN CONDUIT - TO BE REMOVED
- CABLE IN CONDUIT - DIRECTIONAL BORE

COMMUNICATION

- FIBER OPTIC
- FIBER OPTIC - OUT OF SERVICE
- FIBER OPTIC - OVERHEAD
- FIBER OPTIC MARKER
- CABLE
- CABLE - OUT OF SERVICE
- CABLE - OVERHEAD
- CABLE MARKER
- CABLE PEDESTAL
- TELEPHONE
- TELEPHONE - OUT OF SERVICE
- TELEPHONE - OVERHEAD
- TELEPHONE BOX
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL

NATURAL GAS

- GAS LINE
- GAS LINE - OUT OF SERVICE
- MARKER
- VALVE
- WELL

SANITARY SEWER

- MANHOLE WITH COVER (DIA VARIES)
- SEWER
- SEWER - OUT OF SERVICE
- SEWER - TO BE TAKEN OUT OF SERVICE
- SEWER - TO BE REMOVED
- METER

- FIRE HYDRANT
- GATE VALVE AND BOX
- GATE VALVE IN WELL
- IRRIGATION CONTROL VALVE
- IRRIGATION SPRINKLER HEAD
- SERVICE METER
- SERVICE SHUTOFF
- WATER WELL
- IRRIGATION
- WATER MAIN
- WATER MAIN - OUT OF SERVICE
- WATER MAIN - TO BE TAKEN OUT OF SERVICE
- WATER MAIN - TO BE REMOVED
- CATCH BASIN COVER
- ER
- SEWER CLEANOUT ACCESS
- STRUCTURE BOTTOM (DIA VARIES)
- UTILITY BOX
- UTILITY
- GUY ANCHOR
- ROW - FREE ACCESS
- PARCEL LINE
- EASEMENT LINE
- SIGN POST - DOUBLE
- SIGN POST - SINGLE
- SIDEWALK
- CONCRETE
- ASPHALT

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS PROVIDED BY KEBS. THE SURVEYOR AND/OR ENGINEER MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR AND/OR ENGINEER FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR AND/OR ENGINEER HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

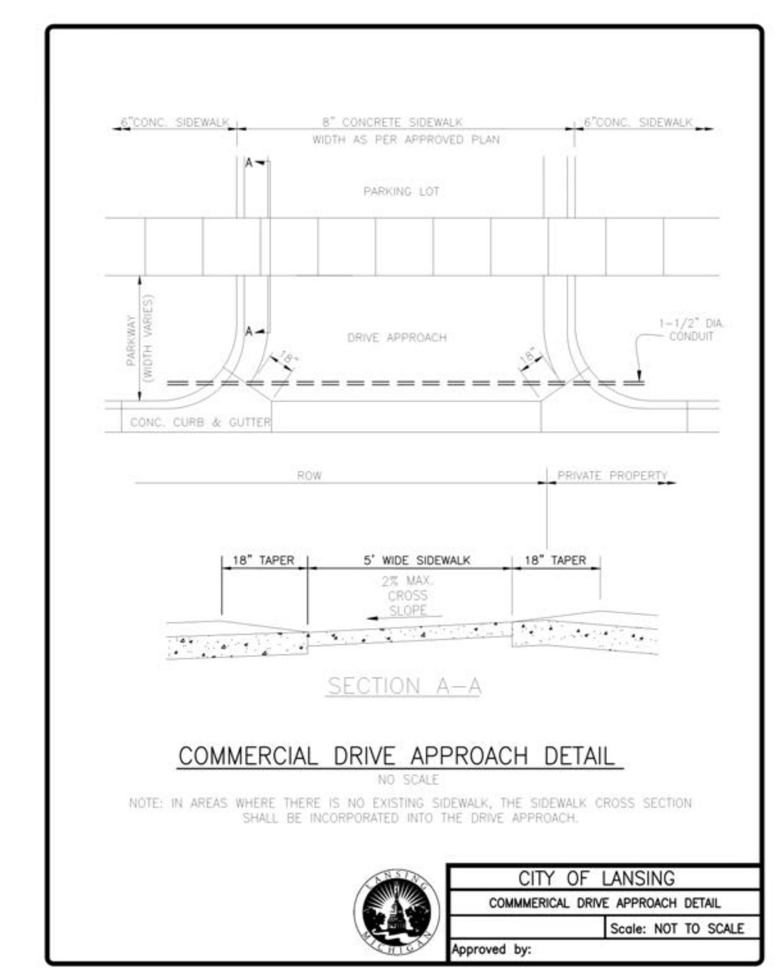
VICINITY MAP

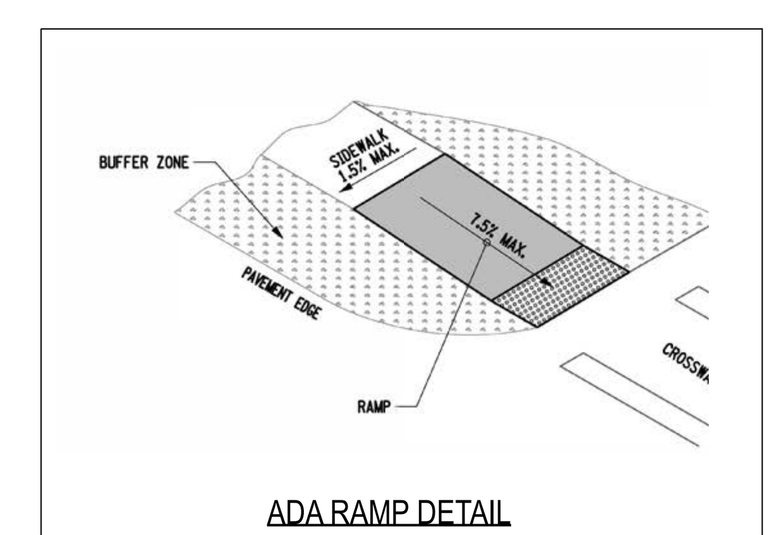
PROJECT SHEET INDEX

GREEN SPACE

TOTAL LOT AREA
LAWN: 0.218 ACRES +/-
BLDG: 0.107 ACRES (4,679 SQ.FT.) +/-
PAV'T: 0.167 (7,274 SQ,FT) +/-

LOT COVERAGE CALCULATIONS
BUILDING =BLDG / ACRE = 0.107 / 0.218 = 0.49 = 49%
LOT = BLDG+PAV'T / ACRE = 0.167 / 0.218= 0.77 = 77%





REVISION TABLE

REVISED BY	DATE

C & A ENGINEERS, LLC
10722 CORKERY LN
GRAND LEDGE, MI 48837
P: 517.898.8152 E: www.caengineersllc.com

INGHAM COUNTY LAND BANK
POINTE EAST CONDOMINIUM'S
500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

PROPOSED SITE PLAN
SITE PLAN

OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

DATE: 5/24/2024

SCALE: 1" = 20'

SHEET NO: C.1

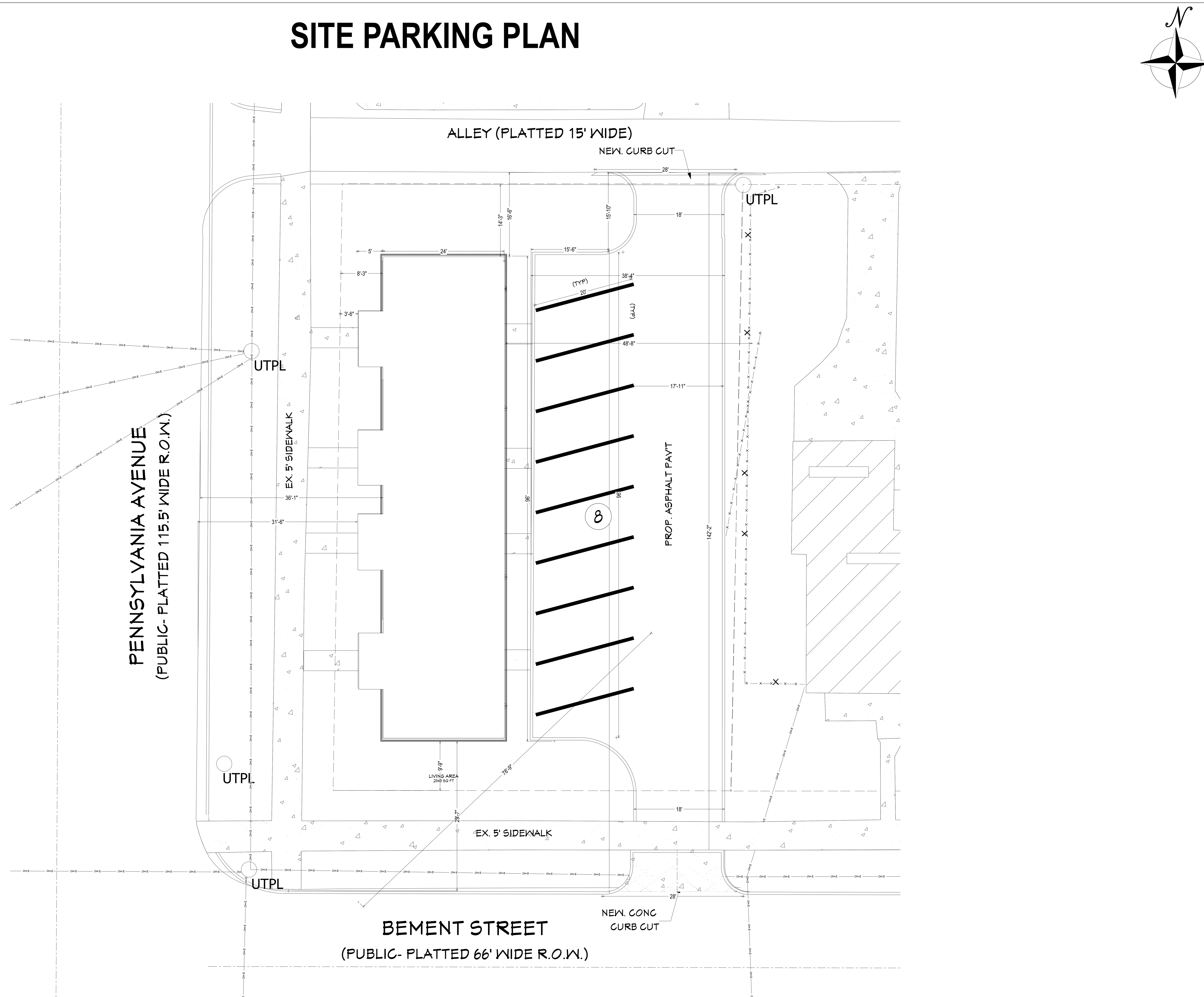
CODED NOTES

CO-OWNERS WILL UTILIZE CITY TRASH/DUMPSTER SERVICE.

SHEET NOTES

SIDEWALK SHOWN ON SITE PLAN IS FOR GENERAL INFORMATION ONLY. C&A ENGINEERS, LLC IS NOT RESPONSIBLE FOR THESE SCOPES OF WORK MEETING ACCESSIBILITY REQUIREMENTS. SITE MODIFICATIONS SHALL MEET ACCESSIBILITY REQUIREMENTS AND THE OWNER IS TO ASSIGN THIS RESPONSIBILITY.

SITE PARKING PLAN



PARKING:

PROPOSED STRIPING OF THE PARKING COMPLIES WITH THE TOWNSHIP STANDARDS FOR ZONING "R-MX MIXED RESIDENTIAL"

Multiple-Family dwellings	One (1) space per each efficiency. One and a half (1.5) spaces per 1 bedroom dwelling unit. Two (2) spaces per each unit with 2 or more bedroom.

*PARKING PROVIDED: 8 SPACES
*DIMENSIONS: 10' W X 20' L

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INGHAM COUNTY LAND BANK
POINTE EAST CONDOMINIUM'S
500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

SITE PARKING PLAN
4 UNIT BUILDING

OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

DATE: 5/24/2024

SCALE: 1" = 10'

SHEET NO: C.2

LANDSCAPE & LIGHTING PLAN

LIGHTING NOTES:

THE BUILDINGS WILL HAVE EIGHT (8) LIGHTS ON THE BUILDING (ONE (1) AT EACH FRONT AND REAR DOOR).
ALL PROPOSED LIGHTS ARE 1200 LUMENS

LANDSCAPE NOTES

PLANT MATERIAL SIZES AND SPACING

A) TREES AND WOODY SHRUBS SHALL NOT BE PLACED CLOSER THAN THREE (3) FEET TO THE FENCE LINE OR PROPERTY LINE AS MEASURED FROM THE CENTER OF ROOT BALL. BRANCHES OF TREES MAY EXTEND OVER PROPERTY LINE BUT SHRUBS MUST BE PROPERLY TRIMMED AT THE PROPERTY LINE. ADJACENT PROPERTY OWNERS RESERVE THE RIGHT TO TRIM BRANCHES OF VEGETATION EXTENDING ONTO THEIR PROPERTY.

B) EVERGREEN TREES SHALL HAVE A MINIMUM STARTING SIZE OF AT LEAST FIVE (5) FEET IN HEIGHT.

C) DECIDUOUS TREES SHALL HAVE A MINIMUM STARTING SIZE OF AT LEAST TWO CALIPER INCHES.

D) SHRUBS SHALL HAVE A MINIMUM STARTING SIZE OF AT LEAST 24 INCHES IN HEIGHT AND SPREAD AND SPACED A DISTANCE APART EQUAL TO OR LESS THAN 75 PERCENT OF THE SHRUB'S MATURE SPREAD DIAMETER.

SPECIES

A) MIXING OF SPECIES. THE OVERALL LANDSCAPE PLAN SHALL NOT CONTAIN MORE THAN 33 PERCENT OF ANY ONE PLANT SPECIES. THE USE OF TREES NATIVE TO THE AREA, AND MIXTURE OF TREES FROM THE SAME SPECIES ASSOCIATION, IS ENCOURAGED IN ALL LANDSCAPED AREA.

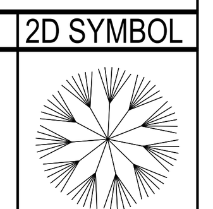
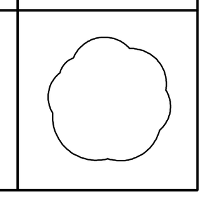
B)

C) THE USE OF NATIVE VEGETATION SPECIES WITH DEEP ROOTS IN RAIN GARDENS, BIOSWALES, BUFFER AREAS, AND OTHER FORMS OF NATURALIZED LANDSCAPING TO ACCOMPLISH THE GOAL OF STORMWATER RETENTION AND FILTRATION IS ENCOURAGED.

D)

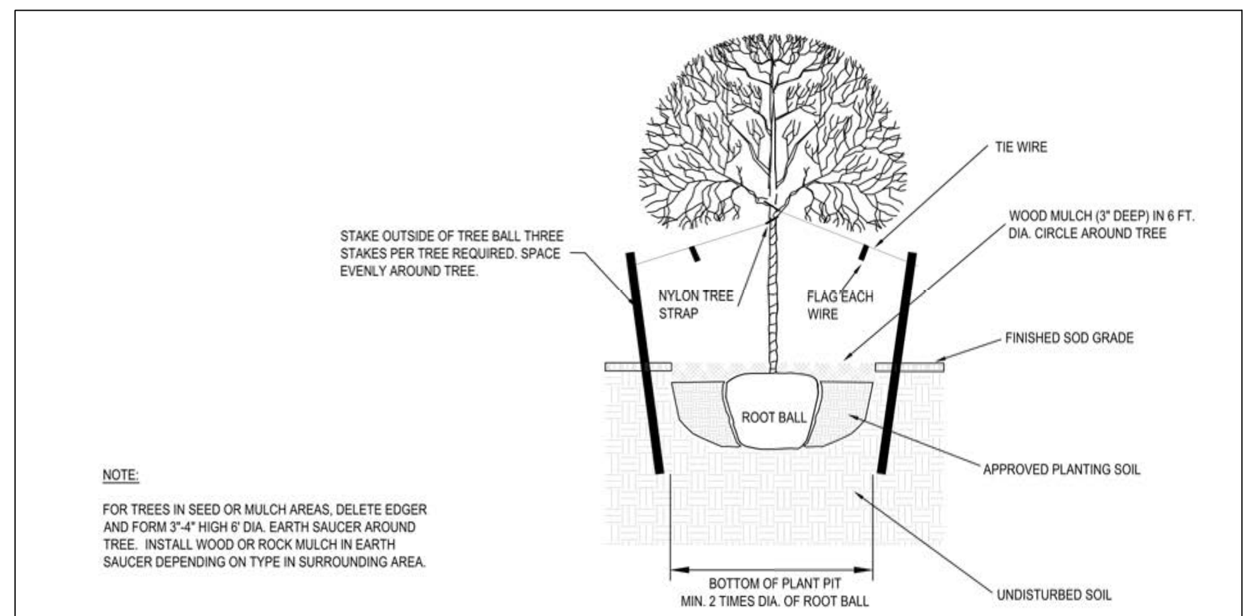
E) PROHIBITED SPECIES. SPECIES DEEMED INVASIVE BY THE STATE OF MICHIGAN OR MICHIGAN STATE UNIVERSITY WILL BE HEAVILY DISFAVORED DURING LANDSCAPE PLAN REVIEW. SUCH INVASIVE SPECIES MAY BE REJECTED IN THE DISCRETION OF THE ZONING ADMINISTRATOR.

PLANT SCHEDULE

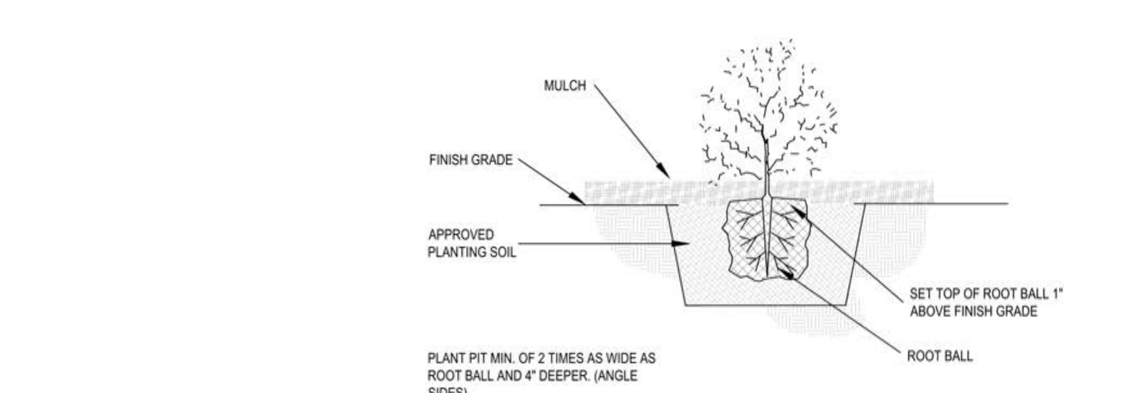
NUMBER	QTY	COMMON NAMES	SCIENTIFIC NAME	2D SYMBOL
P01	48	ENGLISH COMMON BOXWOOD	BUXUS SEMPERVIRENS	
P02	8	NORWAY MAPLE, EUROPEAN MAPLE	ACER PLATANOIDES	

ELECTRICAL SCHEDULE

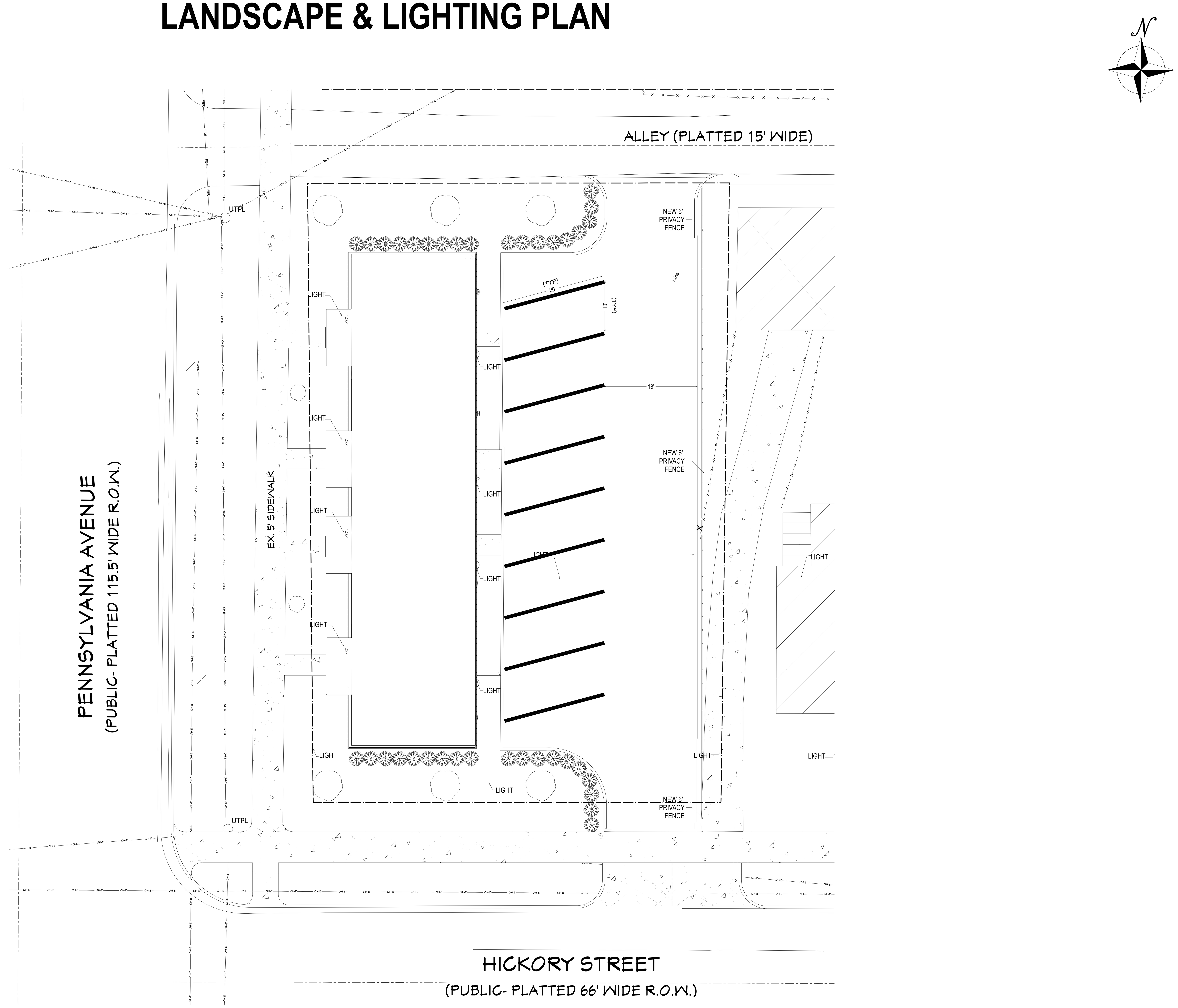
NUMBER	QTY	DESCRIPTION	2D SYMBOL	LUMENS
E01	16	BOX SCONCE VERTICAL		1200

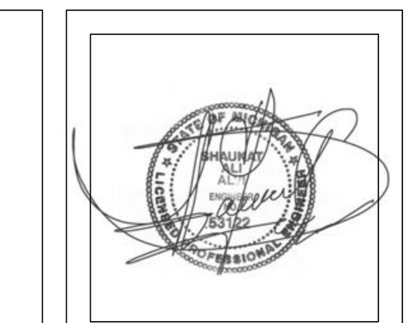


1 NO SCALE TYPICAL TREE PLANTING DETAILS



2 NO SCALE SHRUB PLANTING DETAILS





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INGHAM COUNTY LAND BANK
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500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

LANDSCAPE & LIGHTING PLAN

OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

DATE: 5/24/2024

SCALE: 1" = 15'

SHEET NO: C.3

SESC/GRADING/DRAINAGE PLAN

MAINTENANCE NOTES

SOIL EROSION CONTROL MEASURES SHALL BE INSPECTED BY A CERTIFIED STORM WATER OPERATOR ON A WEEKLY BASIS OR WITHIN 24 HOURS OF A PRECIPITATION EVENT RESULTING IN ONE-HALF INCH OR MORE OF RAINFALL. THE OPERATOR MUST KEEP A WRITTEN LOG OF ALL INSPECTIONS AND COMPLETED REPORTS SHALL BE KEPT ON FILE AT THE CONSTRUCTION SITE. ALL REQUIRED MAINTENANCE SHALL BE PROMPTLY PROVIDED.

ALL DIRT AND MUD TRACKED ONTO ROADS DUE TO CONSTRUCTION BE REMOVED ON A DAILY BASIS BY THE CONTRACTOR.

SHOULD DUST BECOME A PROBLEM AT THE SITE, THE CONTRACTOR SHALL PROVIDE WATERING OR OTHER METHOD OF DUST CONTROL ACCEPTABLE TO THE CITY OF LANSING PUBLIC WORKS DEPARTMENT.

TEMPORARY STONE ACCESS DRIVE:

CRUSHED LIMESTONE BASE SHALL BE PLACED ON A GEOTEXTILE LIMESTONE BASE, GEOTEXTILE FILTER CLOTH OR APPROVED ALTERNATIVE.

ADDITIONAL LAYERS OF STONE OR CRUSHED LIMESTONE BASE SHALL BE ADDED IN LAYERS AND COMPACTED.

STEPS SHALL BE TAKEN TO REPAIR IF RUTS OR POOLING WATER APPEAR.

SILT FENCE:

BUILT UP SEDIMENT SHALL BE REMOVED WHEN SEDIMENT ACCUMULATES TO 1/3 TO 1/2 OF THE HEIGHT OF THE SILT FENCE.

IF SILT FABRIC DECOMPOSES OR BECOMES INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USEABLE LIFE, AND THE BARRIER IS STILL REQUIRED, THE FABRIC SHALL BE PROMPTLY REPLACED.

INLET FILTERS:

INLET FILTERS SHALL BE INSPECTED WEEKLY UNDER, WITHIN 24 HOURS OF RAINFALL AND WITHIN 24 HOURS OF RAINFALL DAILY DURING PROLONGED RAIN

BUILT-UP SEDIMENT AND DEBRIS SHALL BE REMOVED PROMPTLY.

IF INLET FILTER DECOMPOSES OR BECOMES INEFFECTIVE PRIOR TO END OF THE EXPECTED USEABLE LIFE AND THE BARRIER IS STILL REQUIRED, INLET FILTER SHALL BE REPLACED.

GENERAL SOIL EROSION CONTROL NOTES:

THE CONTRACTOR SHALL CONFORM TO PART 91 OF ACT 451 OF THE PUBLIC ACTS OF 1994; EROSION AND SEDIMENT CONTROL OF RUNOFF DURING CONSTRUCTION (AS AMENDED) AND CURRENT LOCAL ORDINANCES FOR EROSION AND SEDIMENTATION CONTROL.

PRIOR TO ANY EARTH CHANGE, THE DEVELOPER SHALL SUBMIT A DETAILED EROSION CONTROL PLAN, COMPLETED APPLICATION AND CHECKLIST FORMS, PAY ALL FEES AND POST AN EROSION CONTROL PERFORMANCE BOND, AS REQUIRED.

CONSTRUCTION OPERATION SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL. EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.

SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.

CLEANUP WILL BE DONE IN A MANNER TO ENSURE THAT EROSION CONTROL MEASURES ARE NOT DISTURBED.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FOR STORM WATER DISCHARGE FROM THE CONSTRUCTION ACTIVITIES IS REQUIRED PRIOR TO ANY EARTH CHANGE.

THE CONTRACTOR IS REQUIRED TO KEEP A COPY OF THE APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN AND PERMIT AT THE CONSTRUCTION SITE.

ALL SOIL EROSION CONTROL PRACTICES TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL SUCH MEASURES ARE PERMANENTLY STABILIZED AS DETERMINED BY THE SOIL EROSION INSPECTOR.

DURING CONSTRUCTION, ANY ADDITIONAL CONTROL MEASURES AS DEEMED NECESSARY TO PREVENT EROSION OR CONTROL SEDIMENT BEYOND THOSE MEASURES SHOWN ON THE APPROVED PLANS SHALL BE INSTALLED OR EMPLOYED AT THE DIRECTION OF THE LOCAL JURISDICTION OR THE SOIL EROSION INSPECTOR.

ALL DISTURBED AREAS SHALL BE TOP SOILED, SEEDED, AND FERTILIZED WITHIN FIVE (5) DAYS AFTER FINAL GRADING. MULCH TO BE USED AS NECESSARY FOR PROTECTION UNTIL PERMANENT VEGETATION IS ESTABLISHED.

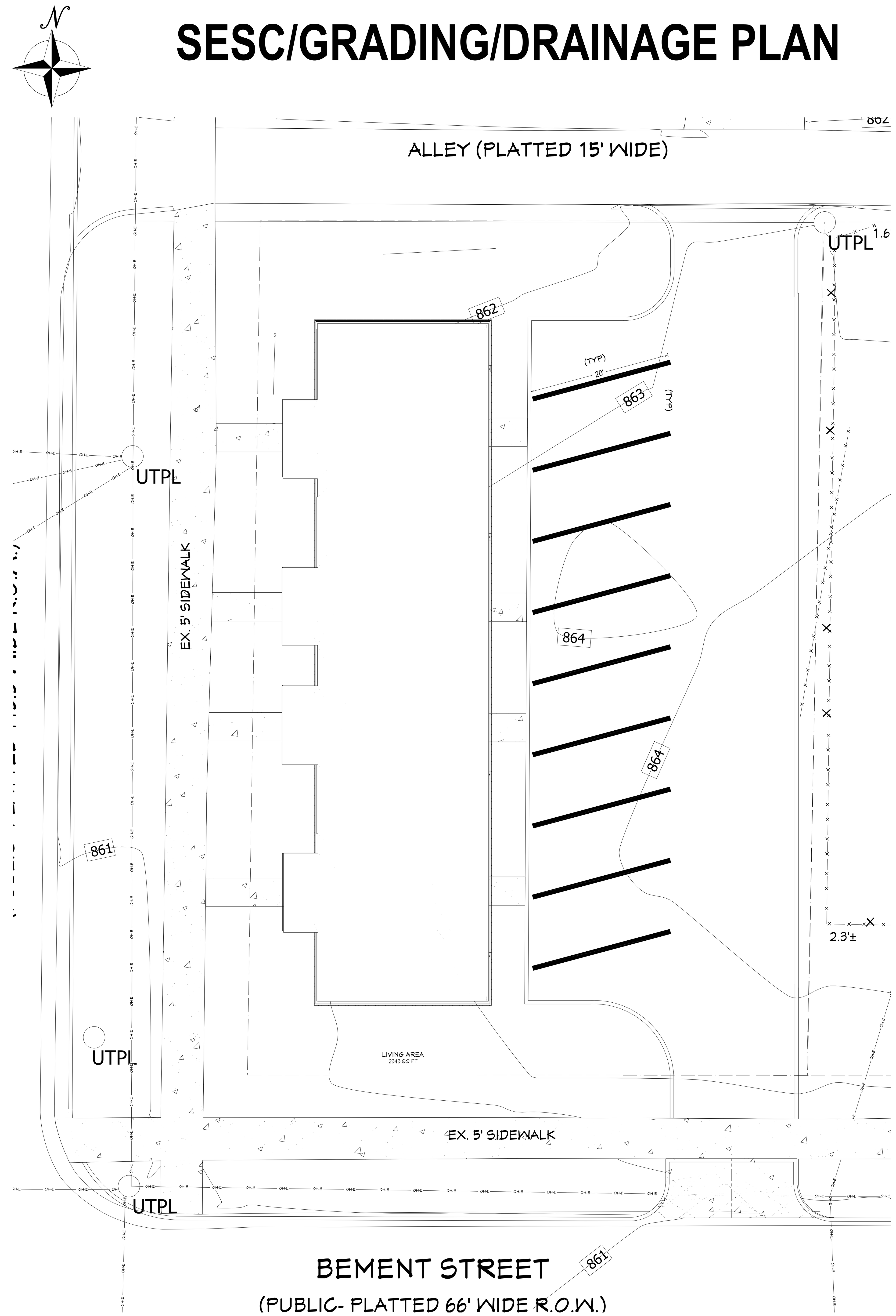
DEWATERING MAY BE REQUIRED. IF REQUIRED, CONTRACTOR SHALL ENSURE THAT DEWATERING DISCHARGE SHALL BE FREE OF ANY SEDIMENTATION PRIOR TO LEAVING THE SITE. IF USING A FILTER BAG, IT SHOULD BE PLACED ON FLAT GROUND TO ENSURE EFFICIENCY. THE FILTER BAG SHOULD BE LOCATED A SUFFICIENT DISTANCE FROM THE EXISTING WATERCOURSE OR WETLAND TO ALLOW PROPER SETTLING OR FILTERING THROUGH NATURAL VEGETATION. DEWATERING DISCHARGE SHALL BE MONITORED FOR ANY EROSIVE CONDITIONS. IF EROSION OCCURS, DEWATERING OPERATIONS MUST CEASE, AND THE ERODED AREA MUST BE STABILIZED IMMEDIATELY, AND MAY RESUME ONLY AFTER STABILIZATION IS COMPLETE.

ANY TEMPORARY SOILS STOCKPILE SHALL OCCUR WITHIN THE LIMITS OF THE SILT FENCE. STOCKPILES TO BE GRADED TO A MAXIMUM OF 3:1 SIDE SLOPE.

A CONCRETE WASHOUT AREA SHALL BE DESIGNATED AND UTILIZED AS NECESSARY.

GRADING SHALL BE DONE AS TO NOT DISRUPT THE STORM WATER FROM ADJACENT PROPERTIES.

THE CONTRACTOR SHALL MAINTAIN ALL TEMPORARY AND PERMANENT CONTROL MEASURES DURING THE DURATION OF CONSTRUCTION.

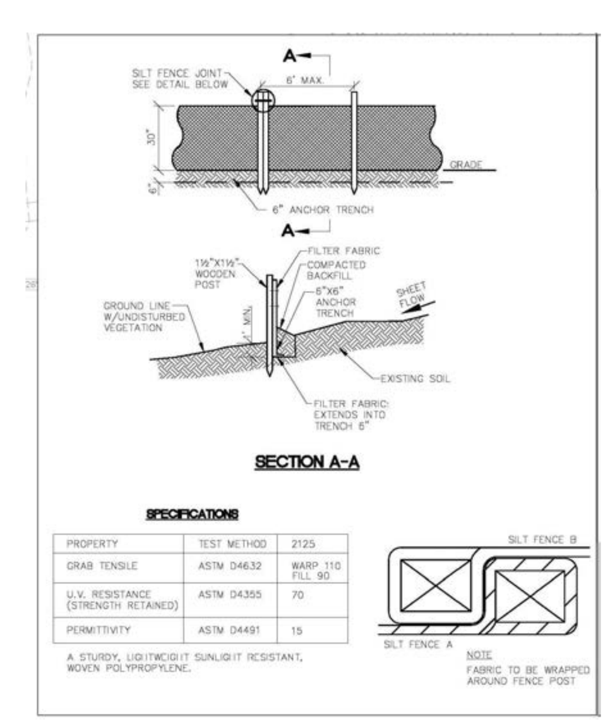


SEQUENCE OF CONSTRUCTION:

1. HOLD A SESC PRE-GRADING MEETING - JULY. 2024.
2. INSTALL TRACKING MAT, ALL PERIMETER SESC MEASURES - AUG. 2024.
3. CLEAR AND EXCAVATE SITE TO SUBGRADE - AUG. 2024.
4. INSTALL BUILDING FOOTINGS & FOUNDATIONS IN ACCORDANCE WITH PERMIT - AUG. 2024.
5. CONSTRUCT UNDERGROUND UTILITIES - OCT. 2024.
6. MAINTAIN SESC MEASURES, INCLUDING CATCH BASINS AND TRACKING MAT - AS NEEDED.
7. BRING ASPHALT PAV'T TO SUBBASE GRADE AND PAV'T LEVEL COURSE - JAN 2025.
8. CONTINUE BUILDING CONSTRUCTION - OCT. 2024
9. FINISH GRADE, REDISTRIBUTE TOP SOIL, SEED AND MULCH ALL DISTURBED AREAS - SEPT. 2025.
10. ENSURE ALL PERMANENT CONTROL MEASURES ARE INSTALLED AND FUNCTIONING.- OCT. 2025.
11. REMOVE ALL TEMPORARY SESC MEASURES. - NOV. 2025.

SILT FENCE NOTE:

1. BUILT UP SEDIMENT SHALL BE REMOVED WHEN SEDIMENT ACCUMULATES TO 1/3 TO 1/2 OF THE HEIGHT OF THE SILT FENCE.
2. IF SILT FABRIC DECOMPOSES OR BECOMES INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USEABLE LIFE, AND THE BARRIER IS STILL REQUIRED. THE FABRIC SHALL BE PROMPTLY REPLACED.



EROSION CONTROL SILT FENCE
NO SCALE

GRADING NOTES

ALL SOIL AND MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. ANY GROUNDWATER DE-WATERING PRACTICES SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DE-WATERED GROUNDWATER. ALL SOIL IMPORTED TO THE SITE SHALL BE CERTIFIED CLEAN FILL. CONTRACTOR SHALL MAINTAIN RECORDS OF ALL FILL MATERIALS BROUGHT TO THE SITE.

THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY AND/OR PERMANENT SHORING WHERE REQUIRED DURING EXCAVATION ACTIVITIES, INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES, TO ENSURE THE STRUCTURAL INTEGRITY OF NEARBY STRUCTURES AND STABILITY OF THE SURROUNDING SOILS.

PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 4 INCHES TO 7 INCHES ABOVE EXISTING GRADES UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL SUPPLY ALL STAKEOUT CURB GRADE SHEETS TO STONEFIELD ENGINEERING & DESIGN, LLC. FOR REVIEW AND APPROVAL PRIOR TO POURING CURBS.

THE CONTRACTOR IS RESPONSIBLE TO SET ALL PROPOSED UTILITY COVERS AND RESET ALL EXISTING UTILITY COVERS WITHIN THE PROJECT LIMITS TO PROPOSED GRADE IN ACCORDANCE WITH ANY APPLICABLE MUNICIPAL, COUNTY, STATE AND/OR UTILITY AUTHORITY REGULATIONS.

MINIMUM SLOPE REQUIREMENTS TO PREVENT PONDING SHALL BE AS FOLLOWS:

· CURB GUTTER: 0.50%
· CONCRETE SURFACES: 1.00%
· ASPHALT SURFACES: 1.00%

A MINIMUM SLOPE OF 1.00% SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE FROM THE BUILDING IS ACHIEVED AND SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IF THIS CONDITION CANNOT BE MET.

FOR PROJECTS WHERE BASEMENTS ARE PROPOSED, THE DEVELOPER IS RESPONSIBLE TO DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED STRUCTURE. IF GROUNDWATER IS ENCOUNTERED WITHIN THE BASEMENT AREA, SPECIAL CONSTRUCTION METHODS SHALL BE UTILIZED AND REVIEWED/APPROVED BY THE CONSTRUCTION CODE OFFICIAL. IF SUMP PUMPS ARE UTILIZED, ALL DISCHARGES SHALL BE CONNECTED DIRECTLY TO THE PUBLIC STORM SEWER SYSTEM WITH APPROVAL FROM THE GOVERNING STORM SEWER SYSTEM AUTHORITY.

ADA NOTES

THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION WITHIN THE ADA PARKING SPACES AND ACCESS AISLES.

THE CONTRACTOR SHALL PROVIDE COMPLIANT SIGNAGE AT ALL ADA PARKING AREAS IN ACCORDANCE WITH STATE GUIDELINES.

THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 5.00% RUNNING SLOPE AND A MAXIMUM OF 2.00% CROSS SLOPE ALONG WALKWAYS WITHIN THE ACCESSIBLE PATH OF TRAVEL (SEE THE SITE PLAN FOR THE LOCATION OF THE ACCESSIBLE PATH). THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ACCESSIBLE PATH OF TRAVEL IS 36 INCHES WIDE OR GREATER UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.

THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION AT ALL LANDINGS. LANDINGS INCLUDE, BUT ARE NOT LIMITED TO, THE TOP AND BOTTOM OF AN ACCESSIBLE RAMP, AT ACCESSIBLE BUILDING ENTRANCES, AT AN AREA IN FRONT OF A
WALK-UP ATM, AND AT TURNING SPACES ALONG THE ACCESSIBLE PATH OF TRAVEL. THE LANDING AREA SHALL HAVE A MINIMUM CLEAR AREA OF 60 INCHES BY 60 INCHES UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.

THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 8.33% RUNNING SLOPE AND A MAXIMUM 2.00% CROSS SLOPE ON ANY CURB RAMPS ALONG THE ACCESSIBLE PATH OF TRAVEL. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 10.00% IF A
LANDING AREA IS PROVIDED AT THE TOP OF THE RAMP. FOR ALTERATIONS, A CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 8.33% IF A LANDING AREA IS NOT PROVIDED AT THE TOP OF THE RAMP. CURBS RAMPS SHALL NOT RISE MORE THAN 6 INCHES IN ELEVATION WITHOUT A HANDRAIL. THE CLEAR WIDTH OF A CURB RAMP SHALL BE NO LESS THAN 36 INCHES WIDE.

ACCESSIBLE RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL CONTAIN COMPLIANT HANDRAILS ON BOTH SIDES OF THE RAMP AND SHALL NOT RISE MORE THAN 30" IN ELEVATION WITHOUT A LANDING AREA IN BETWEEN RAMP RUNS. LANDING AREAS SHALL ALSO BE PROVIDED AT THE TOP AND BOTTOM OF THE RAMP.

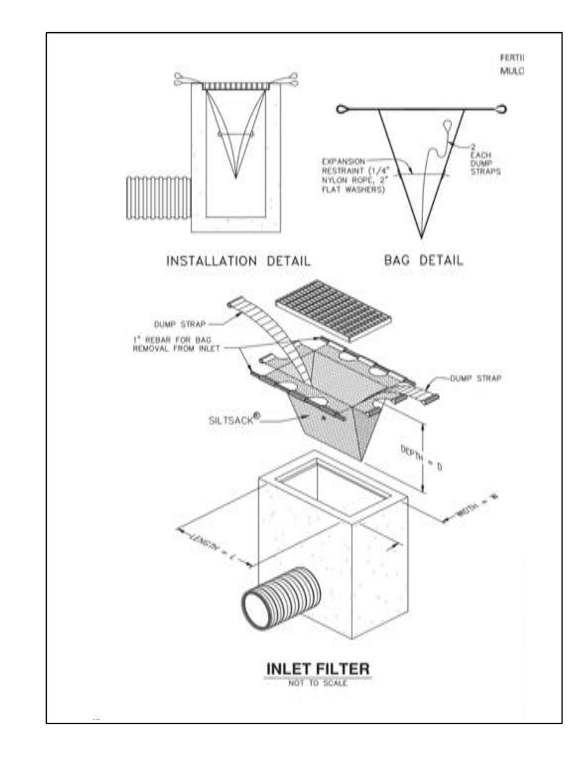
A SLIP RESISTANT SURFACE SHALL BE CONSTRUCTED ALONG THE ACCESSIBLE PATH AND WITHIN ADA PARKING AREAS.

THE CONTRACTOR SHALL ENSURE A MAXIMUM OF ¼ INCHES VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN ¼ INCHES AND ½ INCHES EXISTS, CONTRACTOR SHALL ENSURE THAT THE TOP ¼ INCH CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN 1 UNIT VERTICAL AND 2 UNITS HORIZONTAL (2:1 SLOPE).

THE CONTRACTOR SHALL ENSURE THAT ANY OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG THE ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN ½ INCH.

INLET FILTERS NOTE:

1. INLET FILTERS SHALL BE INSPECTED WEEKLY UNDER NORMAL CONDITIONS, WITHIN 24 HOURS OF RAINFALL AND DAILY DURING PROLONG RAIN.
2. BUILT UP SEDIMENT AND DEBRIS SHALL BE REMOVED PROMPTLY.
3. IF THE FABRIC DECOMPOSES OR BECOMES INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USEABLE LIFE, AND THE BARRIER IS STILL REQUIRED. THE FABRIC SHALL BE PROMPTLY REPLACED



INLET FILTER

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REVISED BY	DATE

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10722 CORKERY LN
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500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

SESC/GRADING/DRAINAGE PLAN

OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

DATE: 5/24/2024

SCALE: 1" = 10'

SHEET NO: C.4

UTILITIES

GENERAL NOTES:

1. IN THE EVENT OF CONFLICT BETWEEN THESE PLANS AND THE CITY'S STANDARD NOTES, THE CITY'S STANDARDS SHALL PREVAIL.

2. ALL PROPOSED UTILITY MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS, SPECIFICATIONS AND CONSTRUCTION DETAILS OF THE CITY OF LANSING.

3. REFER TO THE STANDARD DETAILS OF THE AUTHORITY HAVING JURISDICTION REGARDING UTILITY TRENCH BEDDING AND BACKFILL REQUIREMENTS.

4. REFER TO THE STANDARD DETAILS OF THE AUTHORITY HAVING JURISDICTION REGARDING REQUIRED MANHOLE AND CASTING DETAILS AND TYPES.

5. CONTRACTOR SHALL COORDINATE SCHEDULING AND PROCEDURES WITH THE AUTHORITY HAVING JURISDICTION PRIOR TO PERFORMING THE PROPOSED CONNECTIONS TO THE EXISTING UTILITIES.

6. A MINIMUM VERTICAL SEPARATION OF 18 INCHES SHALL BE MAINTAINED BETWEEN CROSSING UTILITIES, UNLESS OTHERWISE APPROVED.

7. A MINIMUM HORIZONTAL SEPARATION OF 10 FEET SHALL BE MAINTAINED BETWEEN SANITARY SEWER LINES AND POTABLE WATER LINES.

8. NO CONNECTIONS TO EXISTING WATER MAINS SHALL BE MADE UNTIL AFTER THE NEW MAIN HAS SUCCESSFULLY PASSED BACTERIOLOGICAL AND HYDROSTATIC TESTS.

9. NO CONNECTION RECEIVING STORM WATER, SURFACE WATER OR GROUND WATER SHALL BE MADE TO SANITARY SEWERS.

10. CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL UTILITY CONNECTIONS TO THE BUILDING. CONTRACTOR SHALL CONFIRM ALL BUILDING CONNECTION LOCATIONS AND ELEVATIONS AND NOTIFY THE PROJECT TEAM OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.

11. PRIVATE UTILITIES (INCLUDING ELECTRIC, GAS, PHONE, AND CABLE) SHOWN FOR SCHEMATIC PURPOSES ONLY. ALL PRIVATE UTILITY ROUTING AND INSTALLATION SHALL BE COORDINATED BY THE RESPECTIVE UTILITY COMPANY AND/OR THE CONTRACTOR.

12. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES WITHIN THE AREAS OF PROPOSED DEVELOPMENT.

13. THE CONTRACTOR SHALL CALL "MISS DIG"AT LEAST THREE BUSINESS DAYS PRIOR TO THE START OF ANY CONSTRUCTION ON THE SITE.

14. THERE ARE FIRE WALLS WITHIN THE PROPOSED BUILDING.

15. BOOSTER PUMPS ARE NOT PROPOSED WITHIN THE PROPOSED BUILDING.

16. PIPE MATERIALS FOR PUBLIC SANITARY SEWER SYSTEMS
    (1) VCP C700ES FOR DIAMETER UP TO 18 INCHES AND DEPTHS LESS THAN 14 FEET.
    (2) PVC – SDR 26 OR TRUSS PIPE

16. ALL SANITARY SEWER PIPE AND LEADS SHALL BE 6 INCH

GRADING NOTES

ALL SOIL AND MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. ANY GROUNDWATER DE-WATERING PRACTICES SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DE-WATERED GROUNDWATER. ALL SOIL IMPORTED TO THE SITE SHALL BE CERTIFIED CLEAN FILL. CONTRACTOR SHALL MAINTAIN RECORDS OF ALL FILL MATERIALS BROUGHT TO THE SITE.

THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY AND/OR PERMANENT SHORING WHERE REQUIRED DURING EXCAVATION ACTIVITIES, INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES, TO ENSURE THE STRUCTURAL INTEGRITY OF NEARBY STRUCTURES AND STABILITY OF THE SURROUNDING SOILS.

PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 4 INCHES TO 7 INCHES ABOVE EXISTING GRADES UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL SUPPLY ALL STAKEOUT CURB GRADE SHEETS TO STONEFIELD ENGINEERING & DESIGN, LLC. FOR REVIEW AND APPROVAL PRIOR TO POURING CURBS.

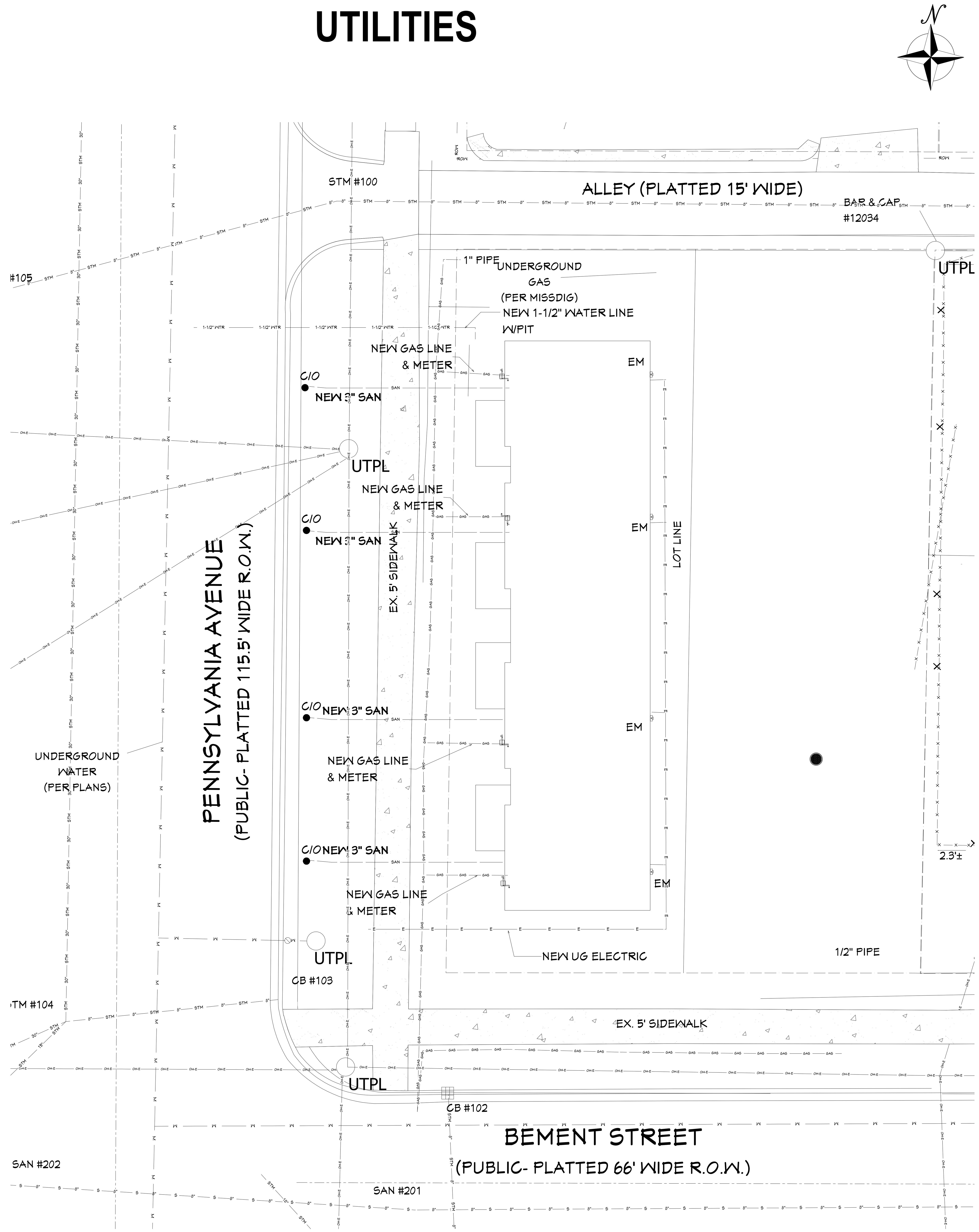
THE CONTRACTOR IS RESPONSIBLE TO SET ALL PROPOSED UTILITY COVERS AND RESET ALL EXISTING UTILITY COVERS WITHIN THE PROJECT LIMITS TO PROPOSED GRADE IN ACCORDANCE WITH ANY APPLICABLE MUNICIPAL, COUNTY, STATE AND/OR UTILITY AUTHORITY REGULATIONS.

MINIMUM SLOPE REQUIREMENTS TO PREVENT PONDING SHALL BE AS FOLLOWS:

- CURB GUTTER: 0.50%
- CONCRETE SURFACES: 1.00%
- ASPHALT SURFACES: 1.00%

A MINIMUM SLOPE OF 1.00% SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE FROM THE BUILDING IS ACHIEVED AND SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IF THIS CONDITION CANNOT BE MET.

FOR PROJECTS WHERE BASEMENTS ARE PROPOSED, THE DEVELOPER IS RESPONSIBLE TO DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED STRUCTURE. IF GROUNDWATER IS ENCOUNTERED WITHIN THE BASEMENT AREA, SPECIAL CONSTRUCTION METHODS SHALL BE UTILIZED AND REVIEWED/APPROVED BY THE CONSTRUCTION CODE OFFICIAL. IF SUMP PUMPS ARE UTILIZED, ALL DISCHARGES SHALL BE CONNECTED DIRECTLY TO THE PUBLIC STORM SEWER SYSTEM WITH APPROVAL FROM THE GOVERNING STORM SEWER SYSTEM AUTHORITY.



UTILITY KEY NOTES:

1. CONNECT DIRECTLY TO EXISTING CITY SANITARY. THE LEAD SHALL BE TIED IN TOWARD THE TOP OF THE EXISTING SANITARY SEWER.
2. INSTALL 6" PVC-SDR 26, SANITARY SEWER LINE. PIPE SLOPE SHALL BE 1% MIN.
3. CONNECT TO NEW GAS LINE AND METER IN FRONT OF EACH UNIT (UNDERGROUND)
4. INSTALL NEW ELECTRICAL METER IN REAR OF EACH UNIT AND CONNECT TO NEW ELECTRICAL LINE (UNDERGROUND)
5. INSTALL NEW SANITARY SEWER AND CLEAN-OUT (EVERY 100 FEET)
6. INSTALL NEW 1-1/2 INCH COPPER WATER LINE SUPPLY SERVICE, WITH SHUT OFF VALVES.
7. INSTALL NEW WATER METER IN UTILITY ROOM OF EACH UNIT
8. CONNECT TO BWL WATER MAIN COORDINATE WITH BWL

REVISION TABLE	
REVISED BY	DATE

C & A ENGINEERS, LLC
10722 CORKERY LN
GRAND LEDGE, MI 48837

INGHAM COUNTY LAND BANK
POINTE EAST CONDOMINIUM'S
500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

UTILITIES

OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

DATE: 5/24/2024

SCALE: 1" = 10'

SHEET NO: C.5

STORMWATER PLAN

GENERAL SHEET NOTES:

1. IN THE EVENT OF CONFLICT BETWEEN THESE PLANS AND THE CITY'S STANDARD NOTES, THE CITY'S STANDARDS SHALL PREVAIL.
2. ALL PROPOSED UTILITY MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS, SPECIFICATIONS AND CONSTRUCTION DETAILS OF THE CITY OF LANSING.
3. REFER TO THE STANDARD DETAILS OF THE AUTHORITY HAVING JURISDICTION REGARDING UTILITY TRENCH BEDDING AND BACKFILL REQUIREMENTS.
4. CONTRACTOR SHALL COORDINATE SCHEDULING AND PROCEDURES WITH THE AUTHORITY HAVING JURISDICTION PRIOR TO PERFORMING THE PROPOSED CONNECTIONS TO THE EXISTING UTILITIES.
5. A MINIMUM VERTICAL SEPARATION OF 18 INCHES SHALL BE MAINTAINED BETWEEN CROSSING UTILITIES, UNLESS OTHERWISE APPROVED.
6. NO CONNECTION RECEIVING STORM WATER, SURFACE WATER OR GROUND WATER SHALL BE MADE TO SANITARY SEWERS.
7. CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL UTILITY CONNECTIONS TO THE BUILDING. CONTRACTOR SHALL CONFIRM All BUILDING CONNECTION LOCATIONS AND ELEVATIONS AND NOTIFY THE PROJECT TEAM OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES WITHIN THE AREAS OF PROPOSED DEVELOPMENT.
9. THE CONTRACTOR SHALL CALL "MISS DIG"AT LEAST THREE BUSINESS DAYS PRIOR TO THE START OF ANY CONSTRUCTION ON THE SITE.

Proposed Stormwater Calculation Tool - Stormwater Management TRM

Stormwater Management Requirements

Site Name:	400 PENNSYLVANIA AVE
Outlet ID:	

If Restricted Outflow Rate is required by Reviewing Agency:
25-Year Allowable Peak Discharge*: 0.0 cfs

* Allowable peak discharge rate shall be used when Reviewing Agency limits flow rate below existing peak flow (based on hydraulic limitations of receiving system). Leave cell BLANK if no restricted rate is specified.

PRE-DEVELOPMENT CONDITIONS

Sub-Drainage District ID	Area (acres)	Description/Hydrologic Group (select from list)	Runoff Coefficient (C)	A*C	Curve Number (CN)	A*CN
1	0.20	Lawn (Type B)	0.30	0.060	58	11.60
2	0.02	Impervious Cover (sidewalk)	0.95	0.017	91	1.64
3				0.000		0.00
4				0.000		0.00
5				0.000		0.00
6				0.000		0.00
TOTAL AREA (acres) (total area of developed site)	0.22		Weighted C	0.35	Weighted CN	61

POST-DEVELOPMENT CONDITIONS

Sub-Drainage District ID	Area (acres)	Description/Hydrologic Group (select from list)	Runoff Coefficient (C)	A*C	Curve Number (CN)	A*CN
1	0.11	Impervious Cover (pavement)	0.95	0.102	98	10.49
2	0.05	Lawn (Type B)	0.30	0.016	58	3.13
3	0.06	Impervious Cover (rooftop)	0.95	0.054	98	5.59
4				0.000		0.00
5				0.000		0.00
6				0.000		0.00
TOTAL AREA (acres) (total area of developed site)	0.22		Weighted C	0.79	Weighted CN	88

Summary

Outlet ID	0
Total Acreage (ac)	0.22
Weighted C - Proposed Conditions	0.79
Weighted CN - Proposed Conditions	88
Time of Concentration PRE (hr)	0.85
Time of Concentration POST (hr)	0.85
Water Quality (WQ) Volume (ft³)	624
Channel Protection (CP) Volume (ft³)	1,126
Infiltration Volume (ft³) - *Required*	1,126
Infiltration Volume (ft³) - *Provided*	3,535
25-Year Peak Allowable Discharge (cfs)	0.00
25-Year Flood Protection (FP) Volume (ft³)	**1,785**
25-Year TOTAL BASIN VOLUME (ft³) - *Pre vs Post*	1,785
25-Year TOTAL BASIN VOLUME (ft³) - *Restricted Outlet*	2,598
25-Year Volume (ft3) - REQUIRED (net of infiltration)	-937

Other #1

f BMP	STORMTECH CHAMBER
Avg Design Infiltration Rate (in/hr)	0.00
ea (ft^2)	0
lume (ft^3)	2,910

ADS

User Inputs

Chamber Model:	MC-7200
Outlet Control Structure:	Yes
Project Name:	400 Pennsylvania Ave
Engineer:	James CARTER
Project Location:	Michigan
Measurement Type:	Imperial
Required Storage Volume:	2598 cubic ft.
Stone Porosity:	40%
Stone Foundation Depth:	9 in.
Stone Above Chambers:	12 in.
Design Constraint Dimensions:	(94 ft. x 35 ft.)

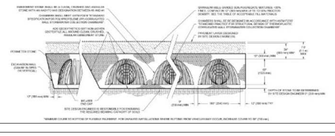
Results

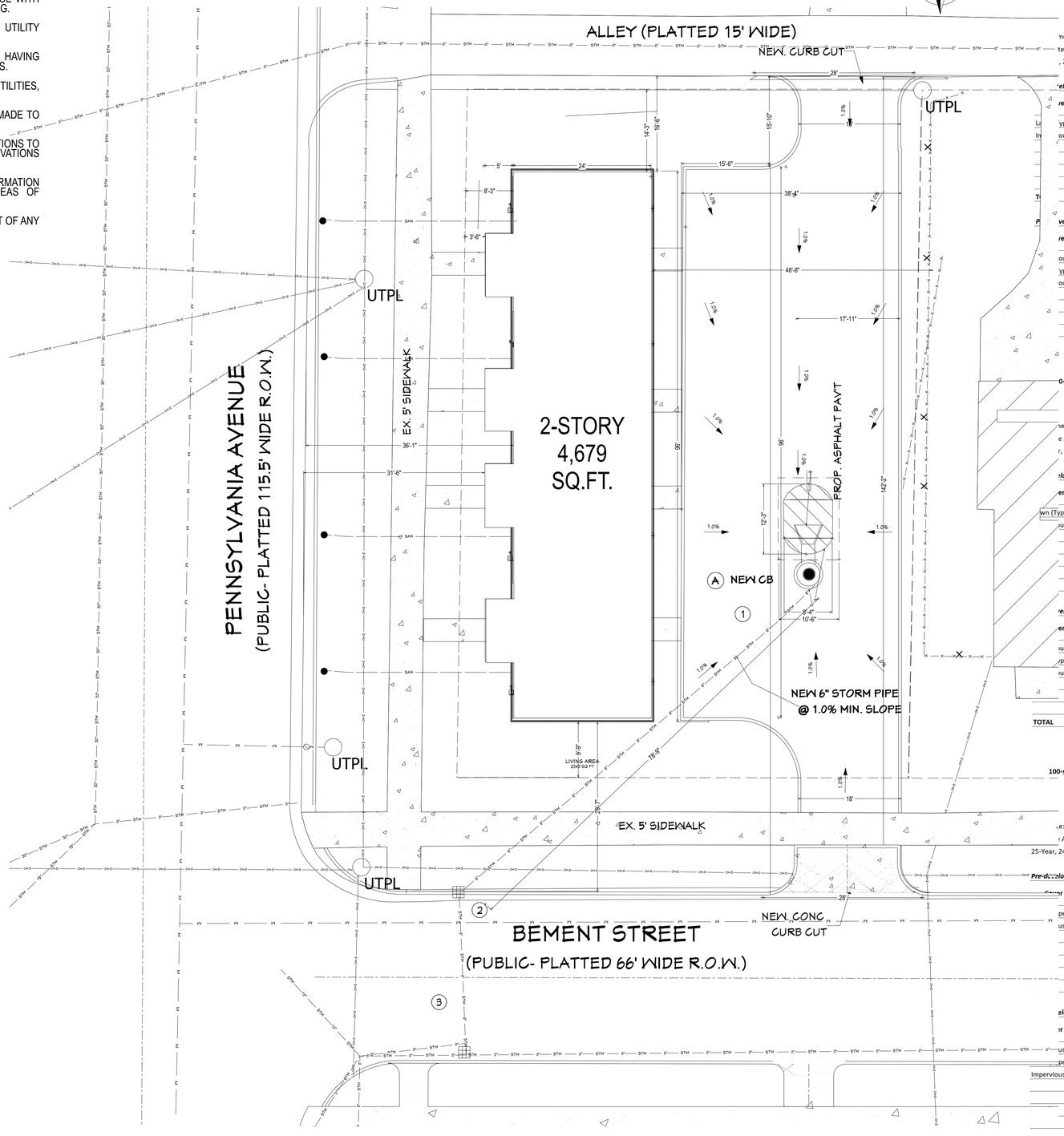
System Volume and Bed Size

Installed Storage Volume:	2910.41 cubic ft.
Storage Volume Per Chamber:	175.90 cubic ft.
Number Of Chambers Required:	8
Number Of End Caps Required:	4
Chamber Rows:	2
Maximum Length:	37.60 ft.
Maximum Width:	19.42 ft.
Approx. Bed Size Required:	730.11 square ft.
Average Cover Over Chambers:	N/A

System Components

Amount Of Stone Required:	125 cubic yards
Volume Of Excavation (Not Including Fill):	183 cubic yards
Total Non-woven Geotextile Required:	298 square yards
Woven Geotextile Required (excluding Isolator Row):	22 square yards
Woven Geotextile Required (Isolator Row):	75 square yards
Total Woven Geotextile Required:	96 square yards
Impervious Liner Required:	0 square yards





1. NEW STORM STRUCTURE
2. NEW 6" STORM SEWER
3. CONNECT TO EX. CATCH BASIN

Flood Protection Volume: 10-yr

me: 400 PENNSYLVANIA AVE
te Area (acres): 0.00
, 24-Hour Rainfall: 3.56

elopment Conditions

er Type/Soil Type	Area (sf)	Area (ac)	CN	S	Q Runoff (in)	Runoff Volume (ft^3)
ype B)	8,712	0.20	58	7.2	0.48	346
ous Cover (sidewalk)	784	0.02	91	1.0	2.60	170
0	0	0.00	0			0
0	0	0.00	0			0
0	0	0.00				0
0	0	0.00				0
	9,496	**0.22**	**N/A**	**N/A**	**N/A**	**516**

elopment Conditions

er Type/Soil Type	Area (sf)	Area (ac)	CN	S	Q Runoff (in)	Runoff Volume (ft^3)
ous Cover (pavement)	4,661	0.11	98	0.2	3.33	1,292
ype B)	2,352	0.05	58	7.2	0.48	93
ous Cover (rooftop)	2,483	0.06	98	0.2	3.33	688
0	0	0.00	0			0
0	0	0.00				0
0	0	0.00				0
	9,496	**0.22**	**N/A**	**N/A**	**N/A**	**2,074**

V_{10} Runoff Volume Increase (ft^3) = 1,558

0-year peak detention pond discharge (cfs) = 0.06

Flood Protection Volume: 100-yr

me: 400 PENNSYLVANIA AVE
e Area (acres): 0.00
r, 24-Hour Rainfall: 5.71

elopment Conditions

er Type/Soil Type	Area (sf)	Area (ac)	CN	S	Q Runoff (in)	Runoff Volume (ft^3)
wn (Type B)	8,712	0.20	58	7.2	1.58	1,146
us Cover (sidewalk)	784	0.02	91	1.0	4.67	305
0	0	0.00	0			0
0	0	0.00	0			0
0	0	0.00				0
0	0	0.00				0
	9,496	**0.22**	**N/A**	**N/A**	**N/A**	**1,452**

elopment Conditions

er Type/Soil Type	Area (sf)	Area (ac)	CN	S	Q Runoff (in)	Runoff Volume (ft^3)
us Cover (pavement)	4,661	0.11	98	0.2	5.47	2,125
ype B)	2,352	0.05	58	7.2	1.58	309
us Cover (rooftop)	2,483	0.06	98	0.2	5.47	1,132
0	0	0.00	0			0
0	0	0.00				0
0	0	0.00				0
TOTAL	**9,496**	**0.22**	**N/A**	**N/A**	**N/A**	**3,567**

V_{100} Runoff Volume Increase (ft^3) = 2,116

100-year peak detention pond discharge (cfs) = 0.21

Flood Protection Volume: 25-yr

e: 400 PENNSYLVANIA AVE
Area (acres): 0.00
25-Year, 24-Hour Rainfall: 4.33

Pre-development Conditions

r Type/Soil Type	Area (sf)	Area (ac)	CN	S	Q Runoff (in)	Runoff Volume (ft^3)
pe B)	8,712	0.20	58	7.2	0.82	596
us Cover (sidewalk)	784	0.02	91	1.0	3.33	218
0	0	0.00	0			0
0	0	0.00	0			0
0	0	0.00				0
0	0	0.00				0
	9,496	**0.22**	**N/A**	**N/A**	**N/A**	**813**

elopment Conditions

r Type/Soil Type	Area (sf)	Area (ac)	CN	S	Q Runoff (in)	Runoff Volume (ft^3)
us Cover (pavement)	4,661	0.11	98	0.2	4.09	1,590
pe B)	2,352	0.05	58	7.2	0.82	161
Impervious Cover (rooftop)	2,483	0.06	98	0.2	4.09	847
0	0	0.00	0			0
0	0	0.00				0
0	0	0.00				0
	9,496	**0.22**	**N/A**	**N/A**	**N/A**	**2,598**

V_{25} Runoff Volume Increase (ft^3) = 1,785

25-year peak detention pond discharge (cfs) = 0.11

REVISION TABLE	
REVISED BY	DATE

C & A ENGINEERS, LLC
10722 CORKERY LN
GRAND LEDGE, MI 48837
P: 517.999.9155 E: www.usengineersllc.com

INGHAM COUNTY LAND BANK
POINTE EAST CONDOMINIUM'S
500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

STORMWATER PLAN

OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

DATE:
5/24/2024

SCALE:
1" = 20'

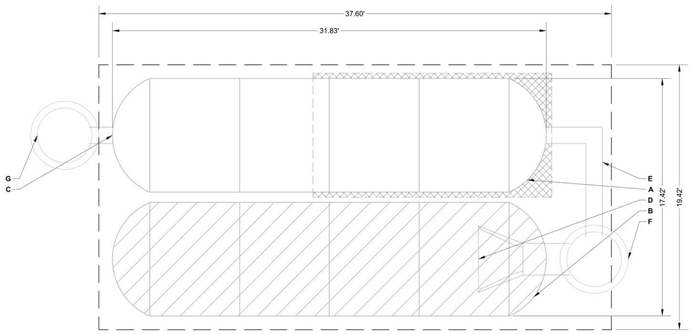
SHEET NO:
C.6

STORMTECH DETAILS

PROPOSED LAYOUT		CONCEPTUAL ELEVATIONS:	
8	STORMTECH MC-7200 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	12.75
4	STORMTECH MC-7200 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	8.25
12	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	7.75
9	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	7.75
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	7.75
2911	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	TOP OF STONE:	6.75
		TOP OF MC-7200 CHAMBER:	5.75
		12" x 12" TOP MANIFOLD INVERT:	3.75
		24" ISOLATOR ROW PLUS INVERT:	0.64
730	SYSTEM AREA (SF)	12" BOTTOM CONNECTION INVERT:	0.88
114.0	SYSTEM PERIMETER (ft)	BOTTOM OF MC-7200 CHAMBER:	0.75
		BOTTOM OF STONE:	0.00

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	12" TOP PARTIAL CUT END CAP, PART#: MC7200IEPP12T / TYP OF ALL 12" TOP CONNECTIONS	35.69"	
PREFABRICATED END CAP	B	24" BOTTOM PARTIAL CUT END CAP, PART#: MC7200IEPP24B / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	2.26"	
PREFABRICATED END CAP	C	12" BOTTOM PARTIAL CUT END CAP, PART#: MC7200IEPP12B / TYP OF ALL 12" BOTTOM CONNECTIONS	1.55"	
FLAMP	D	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: MCFLAMP		
MANIFOLD	E	12" x 12" TOP MANIFOLD, ADS N-12	35.69"	
CONCRETE STRUCTURE	F	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		2.5 CFS IN
CONCRETE STRUCTURE	G	OCS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)		2.0 CFS OUT



ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 17.50' OF ADSPLUS175 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

—— —— BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

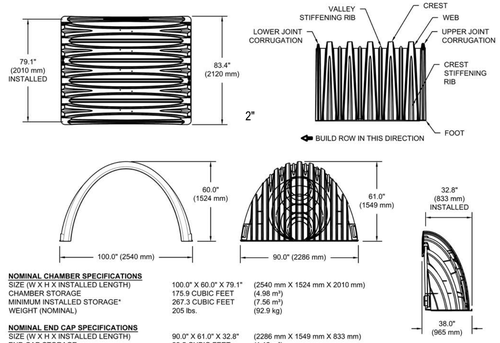
3 MC-7200 ISOLATOR ROW PLUS DETAIL

SPACE INTENTIONALLY LEFT BLANK

SPACE INTENTIONALLY LEFT BLANK

MC-7200 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 79.1"	(2540 mm X 1524 mm X 2010 mm)
CHAMBER STORAGE	175.9 CUBIC FEET	(4.98 m³)
MINIMUM INSTALLED STORAGE*	267.3 CUBIC FEET	(7.56 m³)
WEIGHT (NOMINAL)	205 lbs.	(92.9 kg)

NOMINAL END CAP SPECIFICATIONS

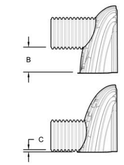
SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs.	(40.8 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

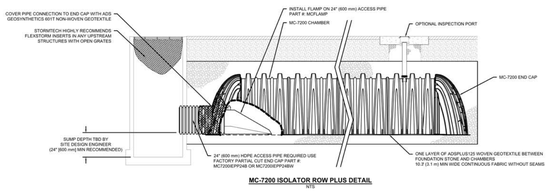
PART #	STUB	B	C
MC7200IEPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC7200IEPP06B		---	0.86" (22 mm)
MC7200IEPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC7200IEPP08B		---	1.01" (26 mm)
MC7200IEPP10T	10" (250 mm)	38.37" (975 mm)	---
MC7200IEPP10B		---	1.33" (34 mm)
MC7200IEPP12T	12" (300 mm)	35.69" (907 mm)	---
MC7200IEPP12B		---	1.55" (39 mm)
MC7200IEPP15T	15" (375 mm)	32.72" (831 mm)	---
MC7200IEPP15B		---	1.70" (43 mm)
MC7200IEPP18T	18" (450 mm)	29.36" (746 mm)	---
MC7200IEPP18TW			
MC7200IEPP18B		---	1.97" (50 mm)
MC7200IEPP18BW			
MC7200IEPP24T	24" (600 mm)	23.05" (585 mm)	---
MC7200IEPP24TW			
MC7200IEPP24B		---	2.26" (57 mm)
MC7200IEPP24BW			
MC7200IEPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC7200IEPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC7200IEPP42BW	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PREFABRICATED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-7200 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

2 MC-7200 TECHNICAL SPECIFICATION



MC-7200 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

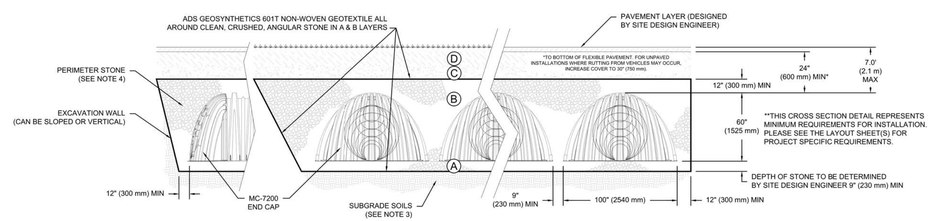
NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".

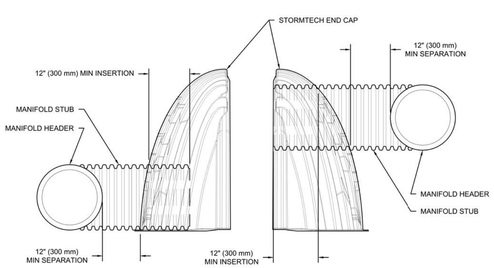


NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-7200 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS N:
   - TO MAIN JRING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSU ALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSU SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2 DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS

SPACE INTENTIONALLY LEFT BLANK

MC-SERIES END CAP INSERTION DETAIL
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

4 MC-SERIES END CAP INSERTION DETAIL

1 MC-7200 CROSS SECTION DETAIL

DRAWN: JC
CHECKED: N/A
DATE:
PROJECT #:
REV:
NOT TO SCALE

REVISION TABLE

REVISED BY	DATE

C & A ENGINEERS, LLC
10722 CORKERY LN
GRAND LEDGE, MI 48837
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400 PENNSYLVANIA AVE
LANSING, MI, USA

StormTech®
Chamber System
888-892-2694 | WWW.STORMTECH.COM

4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

ADS.

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET
1 OF 1

INGHAM COUNTY LAND BANK
POINTE EAST CONDOMINIUM'S
500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

STORMTECH DETAILS

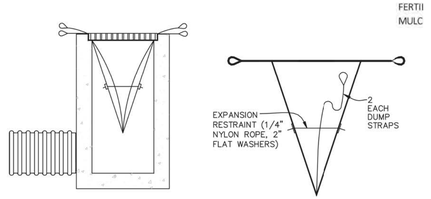
OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

DATE:
5/24/2024

SCALE:

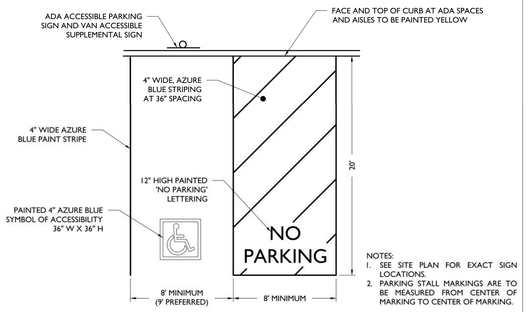
SHEET NO:
C.7

CONSTRUCTION DETAILS



INLET FILTER
NOT TO SCALE

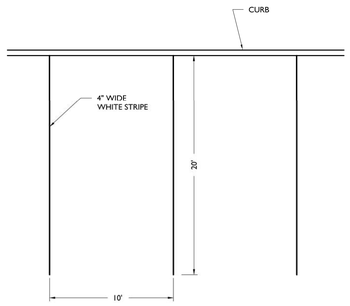
1



NOTES:
1. SEE SITE PLAN FOR EXACT SIGN LOCATIONS.
2. PARKING STALL MARKINGS ARE TO BE MEASURED FROM CENTER OF MARKING TO CENTER OF MARKING.

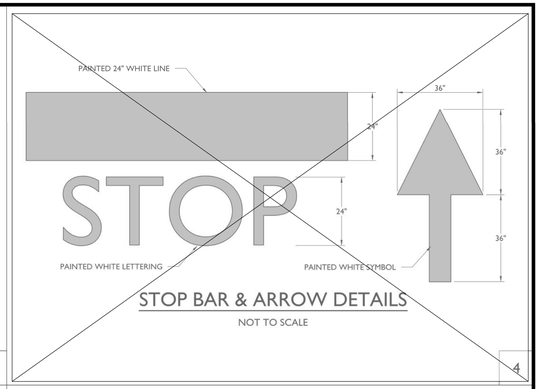
ACCESSIBLE PARKING STALL MARKINGS
NOT TO SCALE

2



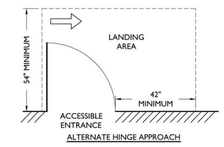
PARKING STALL MARKINGS
NOT TO SCALE

3



STOP BAR & ARROW DETAILS
NOT TO SCALE

4

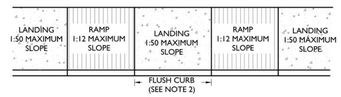


ALTERNATE HINGE APPROACH

ACCESSIBLE ENTRANCE LANDING DETAIL
NOT TO SCALE

NOTES:
1. MAXIMUM SLOPE ON LANDING SHALL BE 1:50 IN ALL DIRECTIONS
2. DIMENSIONS SHOWN HERE ARE THE MINIMUM DIMENSIONS REQUIRED FOR AN ADA COMPLIANT LANDING AT THE ACCESSIBLE ENTRANCE. REFER TO SITE PLAN FOR SITE SPECIFIC DIMENSIONS THAT MAY SPECIFY A LARGER LANDING AREA.
3. CONTRACTOR SHALL CONTACT THE ENGINEER BEFORE CONSTRUCTION IF THE ACCESSIBLE ENTRANCE ON SITE DOES NOT MATCH THE SCENARIO SHOWN ABOVE.

5



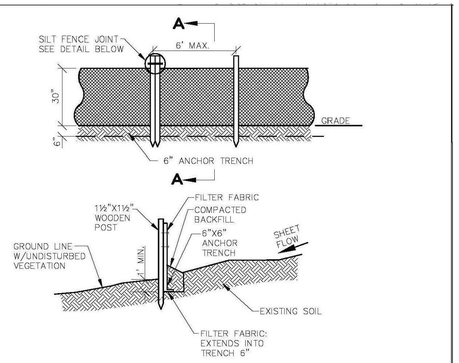
TRANSITION RAMP DETAIL
NOT TO SCALE

NOTES:
1. CROSS SLOPE ON RAMP SHALL NOT EXCEED 2%
2. A FLUSH CURB SHALL HAVE A MINIMUM WIDTH OF 36". SEE PLAN FOR EXACT WIDTH.
3. RAMP SHALL HAVE A MAXIMUM RISE OF 6" WITHOUT A HANDRAIL

6

PAVEMENT STRIPING & MARKINGS NOTES:
1. ALL SIGNING AND STRIPING IN EXISTING CONDITION IN CONFLICT WITH THE PROPOSED DESIGN PLAN SHALL BE REMOVED.
2. ALL PROPOSED SIGNING AND STRIPING SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
3. PAVEMENT STRIPING AND MARKINGS SHALL BE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL, COUNTY AND STATE REQUIREMENTS.
4. UNLESS OTHERWISE SPECIFIED, ALL STRIPING AND MARKINGS IN THE PUBLIC RIGHT-OF-WAY SHALL BE OF THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.
5. UNLESS OTHERWISE SPECIFIED, ON SITE PARKING STALL STRIPING, FIRE LANE STRIPING AND DIRECTIONAL ARROWS SHALL BE EPOXY PAINT. ON SITE STOP BARS, "DO NOT ENTER" BARS, AND ASSOCIATED LETTERING SHALL BE THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.

7

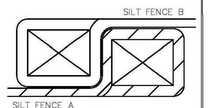


SECTION A-A

SPECIFICATIONS

PROPERTY	TEST METHOD	2125
GRAB TENSILE	ASTM D4632	WARP 110 FILL 90
U.V. RESISTANCE (STRENGTH RETAINED)	ASTM D4355	70
PERMITTIVITY	ASTM D4491	15

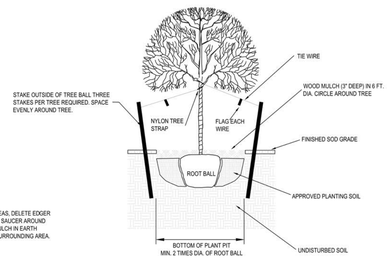
A STURDY, LIGHTWEIGHT SUNLIGHT RESISTANT, WOVEN POLYPROPYLENE.



NOTE
FABRIC TO BE WRAPPED AROUND FENCE POST

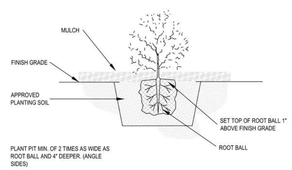
S26 EROSION CONTROL SILT FENCE
NO SCALE

8



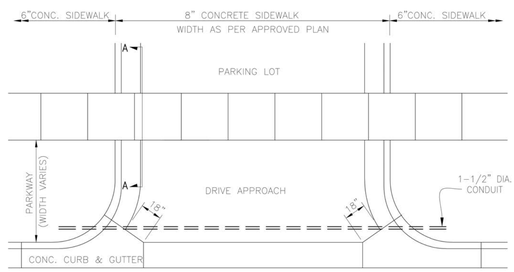
NOTE:
FOR TREES IN SEED OR MULCH AREAS, DELETE EDGER AND FORM 3"-4" HIGH 8' DIA. EARTH SAUCER AROUND TREE. INSTALL WOOD OR ROCK MULCH IN EARTH SAUCER DEPENDING ON TYPE IN SURROUNDING AREA.

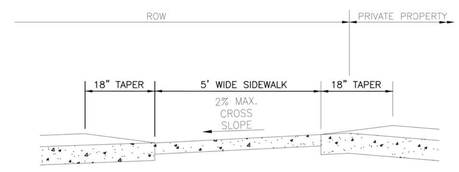
NO SCALE TYPICAL TREE PLANTING DETAILS



NO SCALE SHRUB PLANTING DETAILS

10

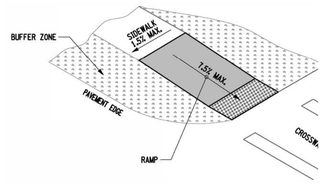




SECTION A-A

COMMERCIAL DRIVE APPROACH DETAIL
NO SCALE

NOTE: IN AREAS WHERE THERE IS NO EXISTING SIDEWALK, THE SIDEWALK CROSS SECTION SHALL BE INCORPORATED INTO THE DRIVE APPROACH.



ADA RAMP DETAIL

11

CITY OF LANSING	
COMMERICAL DRIVE APPROACH DETAIL	
	Scale: NOT TO SCALE
Approved by:	

V:\GET\2020\GET-200181-GAGE CANNABIS-5 STATE PARK DRIVE, BANGOR TOWNSHIP, MI\CAD\DPLOT\DDP-07-08-SET.DWG

C & A ENGINEERS, LLC
10722 CORKERY LN
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REVISION TABLE

REVISED BY	DATE

INGHAM COUNTY LAND BANK
POINTE EAST CONDOMINIUM'S
500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

CONSTRUCTION DETAILS

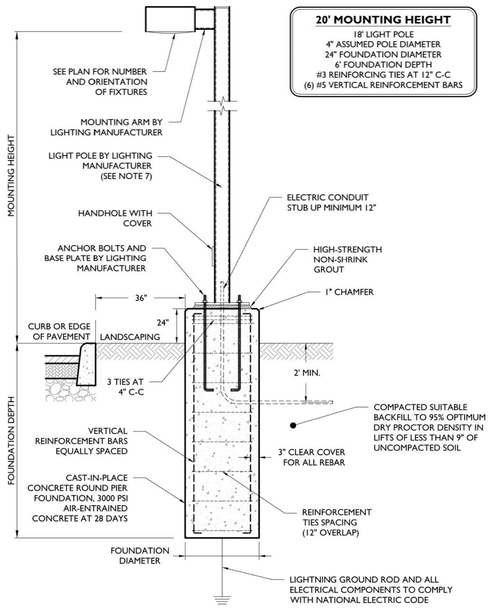
OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

DATE:
5/24/2024

SCALE:

SHEET NO:
C.8

CONSTRUCTION DETAILS

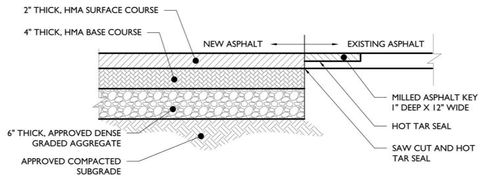


LIGHT POLE INSTALLATION DETAIL

NOT TO SCALE

NOTES:
1. MINIMUM SOIL BEARING PRESSURE OF 1500 PSF, SOIL FRICTION ANGLE OF 30 DEGREES, AND SOIL DRY UNIT WEIGHT OF 120 PCF SHALL BE CONFIRMED IN THE FIELD BY A QUALIFIED PROFESSIONAL.
2. CAST-IN-PLACE CONCRETE SHALL BE CONSOLIDATED USING VIBRATOR.
3. ALL REBAR TO BE NEW GRADE 60 STEEL.
4. PRE-CAST PIERS ACCEPTABLE UPON WRITTEN APPROVAL OF SHOP DRAWING BY ENGINEER.
5. CONCRETE TO BE INSTALLED A MINIMUM OF 7 DAYS PRIOR TO INSTALLING LIGHT POLE. POURED CONCRETE MIX REQUIRED TO OBTAIN 80% OF DESIGN STRENGTH PRIOR TO INSTALLING LIGHT POLE.
6. CONCRETE SHALL HAVE A MAXIMUM SLUMP OF 4" (WITHIN 1" TOLERANCE).
7. POLE SHALL BE RATED FOR 10 MPH HIGHER THAN MAXIMUM WIND SPEED 33FT ABOVE GROUND FOR THE AREA BASED ON ANSI/ASCE 7-93.
8. POUR TO BE TERMINATED AT A FORM.
9. WORK SHALL CONFORM TO ACI BEST PRACTICES FOR APPROPRIATE TEMPERATURE AND WEATHER CONDITIONS.
10. CONTRACTOR TO TEMPORARILY SUPPORT ADJACENT SOIL AND STRUCTURES DURING EXCAVATION IF REQUIRED.

1

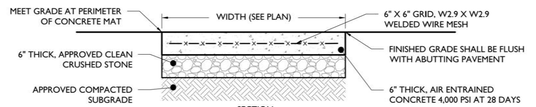


FULL DEPTH ASPHALT PAVEMENT DETAIL

NOT TO SCALE

NOTE:
HMA MIX AND DENSE GRADED AGGREGATE SHALL CONFORM TO STATE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.

2



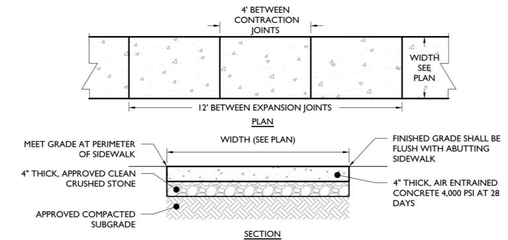
SECTION

REINFORCED 6" CONCRETE MAT

NOT TO SCALE

NOTES:
1. ½" EXPANSION JOINTS WITH WATER SEAL SHALL BE PROVIDED AT 12' INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED ½" FROM THE SURFACE. LONGITUDINAL REBAR TO BE CUT AT EXPANSION JOINTS.
2. 1" DEEP BY ¼" WIDE, TOOLED CONTRACTION JOINTS SHALL BE PROVIDED AT MID-POINT BETWEEN EXPANSION JOINTS OR 4' INTERVALS MAX.
3. CONCRETE SHALL RECEIVE BROOM FINISH.
4. ALL EXPOSED CORNERS TO HAVE 12" CHAMFER.

3



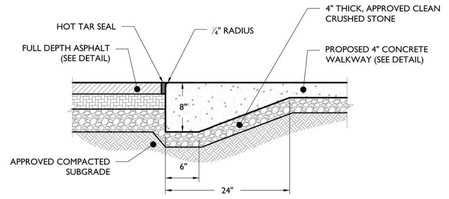
SECTION

CONCRETE WALKWAY DETAIL

NOT TO SCALE

NOTES:
1. MAXIMUM CROSS SLOPE SHALL BE ¼" PER FOOT.
2. ¼" EXPANSION JOINTS SHALL BE PROVIDED AT 12' INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED ½" FROM THE SURFACE.
3. 1" DEEP BY ½" WIDE, TOOLED CONTRACTION JOINTS SHALL BE PROVIDED AT 4' INTERVALS.
4. EXPANSION JOIN SHALL BE PROVIDED WHERE ADJACENT TO A BUILDING.

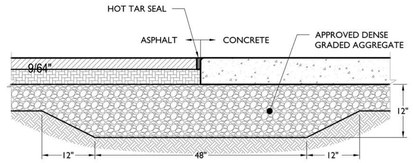
4



CONCRETE WALKWAY TO ASPHALT TRANSITION DETAIL

NOT TO SCALE

5

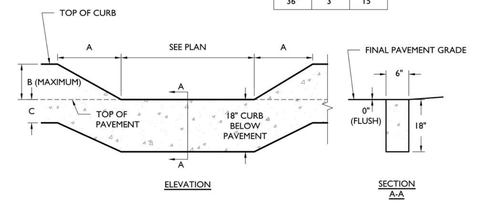


CONCRETE TO ASPHALT TRANSITION DETAIL

NOT TO SCALE

6

FLUSH CURB DIMENSIONS		
A	B	C
72"	6"	12"
60"	5"	13"
48"	4"	14"
36"	3"	15"



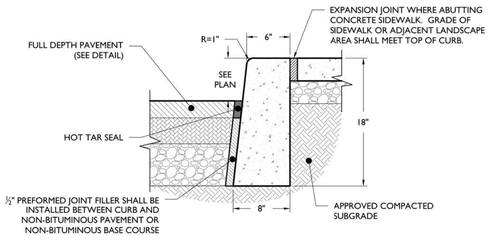
ELEVATION

SECTION A-A

FLUSH CURB DETAIL

NOT TO SCALE

7

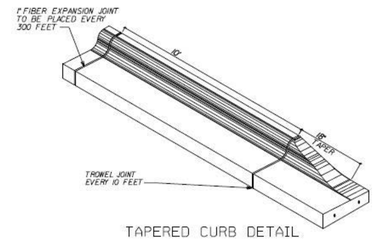


CONCRETE CURB DETAIL

NOT TO SCALE

NOTES:
1. CONCRETE SHALL BE 3500 PSI AT 28 DAYS, AIR-ENTRAINED.
2. TRANSVERSE EXPANSION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED ½" FROM SURFACE.
3. HALF DEPTH CONTRACTION JOINTS SHALL BE PROVIDED AT 10 FOOT INTERVALS.
4. 18" CURB DEPTH SHALL BE MAINTAINED AT DEPRESSED OR FLUSH CURBED AREAS.

8



TAPERED CURB DETAIL

9

REVISION TABLE

REVISED BY	DATE

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INGHAM COUNTY LAND BANK
POINTE EAST CONDOMINIUM'S
500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

CONSTRUCTION DETAILS

OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

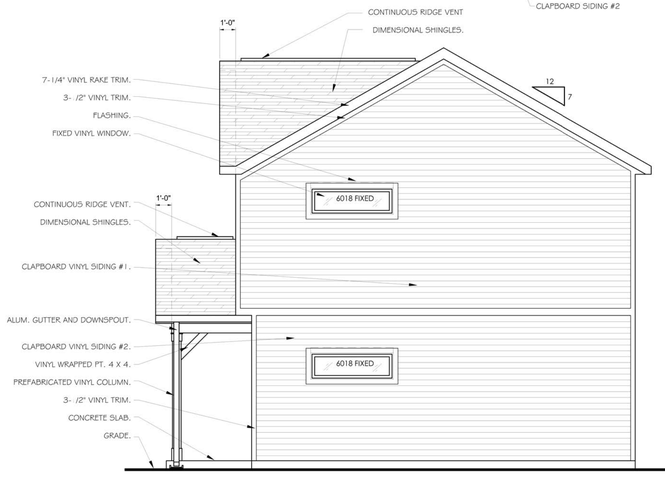
DATE:
5/24/2024

SCALE:

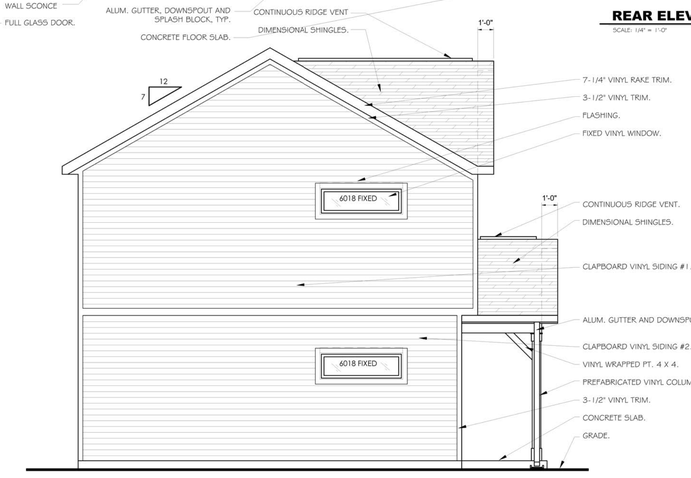
SHEET NO:
C.9

ELEVATION

REAR ELEVATION
SCALE: 1/4" = 1'-0"



RIGHT SIDE ELEVATION
SCALE: 1/4" = 1'-0"



LEFT SIDE ELEVATION
SCALE: 1/4" = 1'-0"

FRONT ELEVATION
SCALE: 1/4" = 1'-0"

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10722 CORKERY LN
GRAND LEDGE, MI 48837
P: 517.599.9152 E: www.caengineersllc.com

REVISION TABLE

REVISED BY	DATE

INGHAM COUNTY LAND BANK
POINTE EAST CONDOMINIUM'S
500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

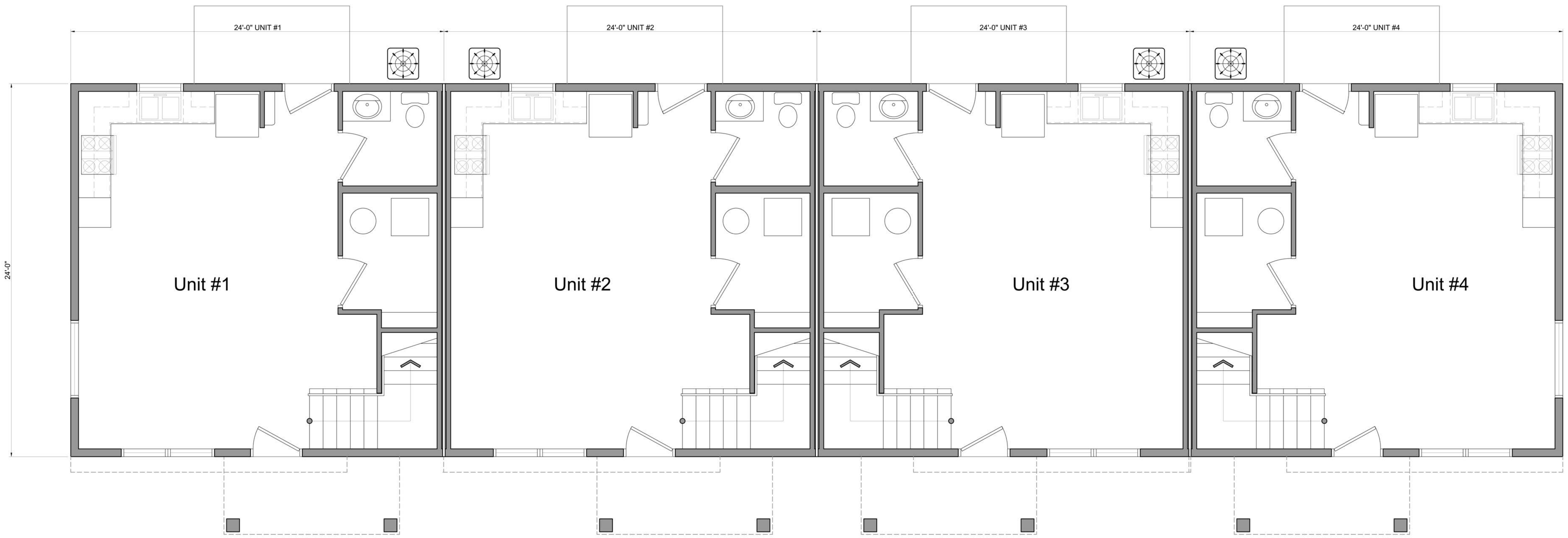
DATE:
5/24/2024

SCALE:
1/4" = 1'

SHEET NO:
A.1

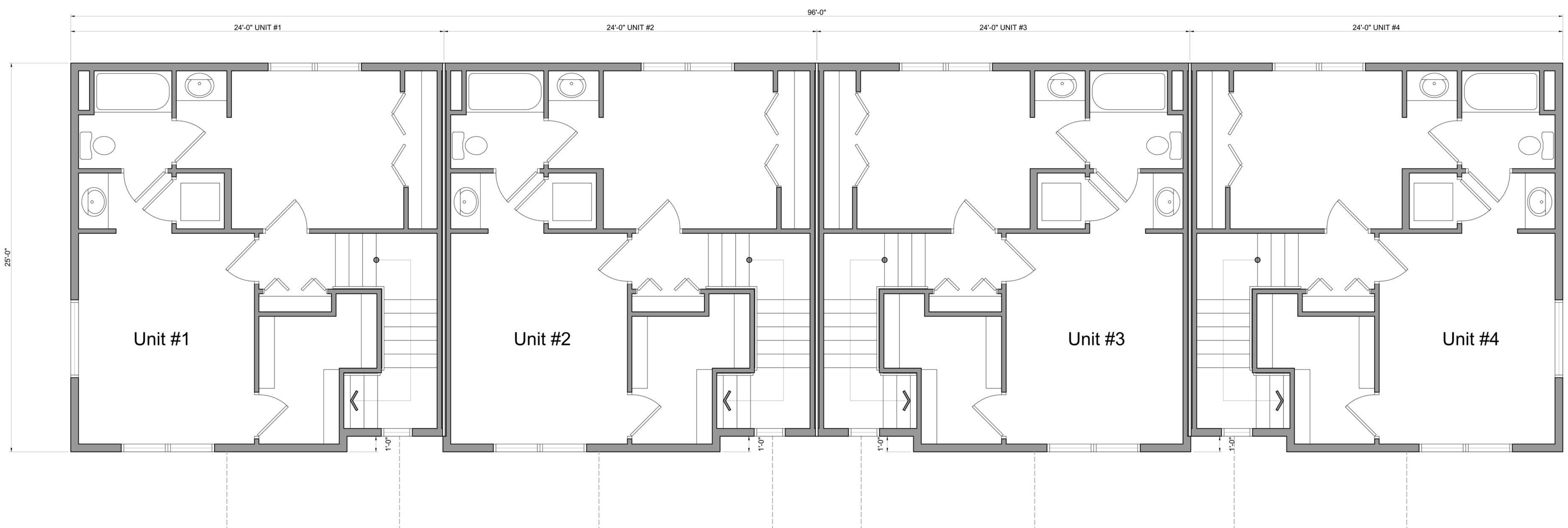
ELEVATION

FLOOR PLAN



OVERALL FIRST FLOOR PLAN

SCALE: 1/4" = 1'-0"



OVERALL SECOND FLOOR PLAN

SCALE: 1/4" = 1'-0"

REVISION TABLE	
REVISED BY	DATE

C & A ENGINEERS, LLC
10722 CORKERY LN
GRAND LEDGE, MI 48837
P: 517.898.8152 E: www.caengineersllc.com

INGHAM COUNTY LAND BANK
POINTE EAST CONDOMINIUM'S
500 BLOCK S. PENNSYLVANIA
LANSING, MI 48912

FLOOR PLAN

OWNER:
INGHAM COUNTY LAND BANK
3024 TURNER RD LANSING, MICHIGAN

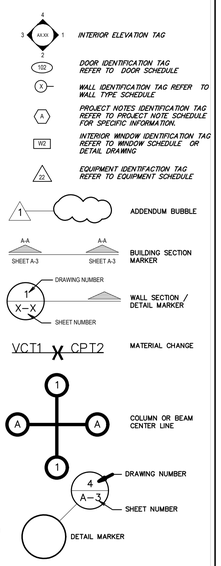
DATE: 5/24/2024

SCALE: 1/8" = 1'

SHEET NO: A.2

ABBREVIATIONS AND SYMBOLS

ABOVE FINISHED FLOOR	A.F.F	OFFICE	OFF.
ACCESS DOOR	A.D.	ON CENTER	O.C.
ACCESS PANEL	A.P.	OPENING	OPN'G
ACOUSTIC, ACOUSTICAL	ACOUS.	OPPOSITE	OPP.
ACOUSTIC CEILING TILE	A.C.T.	OPPOSITE HAND	O.H.
ADDITION	ADD'N.	OUTSIDE DIAMETER	O.D.
ADJUSTABLE	ADJ.	OVER HEAD	O.H.
ALTERNATE	ALT.		
ALUMINUM	ALUM.	PAINTED	PT'D
ANCHOR, ANCHORABLE	ANCH.	PAIR	PR
ANCHOR BOLT	A.B.	PAPER TOWEL DISPENSER	P.T.
AND	&	PAPER TOWEL RECEPTACLE	P.T.R.
ANGLE	L	PARTITION	PART'N
ANODIZED	ANOD.	PAVEMENT	PVM'T
APPROVED	APPR.	PAVING	PV'G
APPROXIMATE	APPROX.	PENT HOUSE	PENTHSE
ARCHITECT, ARCHITECTURAL	ARCH.	PERFORATED	PERF.
AUTOMATIC	AUTO.	PERIMETER	PERIM.
ASPHALT	ASPH.	PHYSICALLY HANDICAPPED	P.H.
ASSEMBLY	ASS'Y.	PIECES	PC'S
ASSISTANT	ASS'T.	PLASTER	PLAS.
AT	@	PLASTIC LAMINATE	PL.LAM.
AUXILIARY	AUX.	PLATE	PL.
		PLYWOOD	PLY'WD
BARRIER FREE	B.F.	POINT	PT
BASE PLATE	B.PL.	POINTS	PT'S
B	BENCH	POLISH/POLISHED	POL.
BEAM	B.M.	POLYVINYL CHLORIDE	PVC
BEARING	BR'G.	POUNDS	LBS.
BENCH MARK	B.MK.	POUNDS PER SQUARE FOOT	P.S.F.
BETWEEN	BET.	POWER	PWR
BITUMINOUS	BITUM.	PRECAST	P.C.
BLOCK	BL'K.	PREFABRICATED	PREFAB.
BLOCKING	BLK'G.	PRESSURE TREATED	P.T.
BOARD	BD.	PROJECT, PROJECTION	PROJ.
BOTTOM	BOTT.	PROPERTY	PROP.
BUILDING	BLD'G.		
BUILT–UP ROOFING	B.U.R.	QUARRY TILE	Q.T.
CABINET	CAB.		
CARPET	CPT.	RAIN CONDUCTOR	R.C.
CAST IN PLACE	C.I.P.	RADIUS	RAD.
CATCH BASIN	C.B.	REFERENCE	REF.
CEILING	CL'G.	REFLECTED/REFLECTIVE	REFL.
CENTER LINE	C.L.	REFRIGERATE	REFRIG.
CENTER TO CENTER	C/C	REINFORCE	REINF.
CERAMIC	CER.	REQUIRED	REQ'D
CERAMIC TILE	C.T.	RESILIENT	RESIL.
CHALK BOARD	CHALK BD.	REVISED/REVISION	REV.
CHECKERED PLATE	CHK'D PL.	RIGHT HAND	R.H.
CLOSET	CLO.	RIGHT HAND REVERSE	R.H.R.
COLD WATER	C W	RIGHT OF WAY	R.O.W.
COLUMN	COL.	RISER	R.
COMPACTED	COMP.	ROOF SUMP	R.S.
CONCRETE	CONC.	ROOFING	RF'G
CONCRETE MASONRY UNIT	C.M.U.	ROOM	RM.
CONFERENCE	CONF.	ROUGH OPENING	R.O.
CONNECT, CONNECTION	CONN.	ROUND	RND.
CONSTRUCTION	CONST.	RUBBER TILE	R.T.
CONTROL OR CONST. JOINT	CJ		
CONTINUE	CONT.	SANITARY	SAN.
CONTRACTOR	CONTR.	SAN. NAPKIN DISPENSER	S.N.D.
CORRIDOR, CORRUGATED	CORR.	SAN. NAPKIN DISPOSAL	S.N.DISP.
COUNTER	CTR.	SCHEDULE	SCHED.
		SHOWER CURTAIN	SC.
DAMPPROOFING	D.P.	SECTION	SECT.
DEAD LOAD	D.L.	SERVICE SINK	S.S.
DEMOLITION	DEMO.	SHEET	SHT.
DEPARTMENT	DEPT.	SHEET METAL	SHT.MTL.
DETAIL	DET.	SHELVING	SHLV'G
DIAMETER	DIA.	SHOWER	SHWR
DIFFUSER	DIFF.	SIMILAR	SIM.
DIMENSION	DIM.	SOAP DISPENSER	S.DISP.
DIRECTORY	DIR.	SOUTH	S
DITTO	DO.	SPEAKER	SPK'R
DOOR	DR.	SPECIFICATIONS	SPEC.
DOOR OPENING	D.O.	SQUARE	SQ.
DOUBLE	DW'L	SQUARE FOOT (FEET)	S.F.
DOWN	DN	STAINLESS STEEL	ST.STL.
DOWNSPOUTS	D.S.	STANDARD	ST'D
DOWELS	DW'LS	STEEL	ST'L
DRAWING	DW'G	STORAGE	STOR.
DRINKING FOUNTAIN	D.F.	STREET	ST.
		STRUCTURAL	STRUCT.
EACH	EA.	STRUCTURAL STEEL	ST.ST'L.
EACH FACE	E.F.	ST.ST'L CONTRACTOR	S.S.C.
EACH WAY	E.W.	SURFACE	SURF.
ELASTO WATER PROOFING	ELAST.W.P.	SUSPEND/SUSPENSION	SUSP.
ELECTRIC, ELECTRICAL	ELEC.		
ELECTRICAL PANEL	E.P.	TACK BOARD	TACK BD.
ELECTRIC WATER COOLER	EWC	TELEPHONE	TEL.
ELEVATION (HEIGHT LEVEL)	EL.	TEMPERATURE	TEMP.
ELEVATOR	ELEV.	TEMPERED GLASS	TEMP.GL.
ELIMINATE	ELIM.	THRESHOLD	THRES.
EMERGENCY	EMERG.	TOILET	TLT.
ENAMEL	ENAM.	TOILET PAPER DISPENSER	T.P.
ENCLOSURE	ENCL.	TONGUE AND GROOVE	T&G
ENVIRONMENT	ENVIR.	TOP & BOTTOM	T&P
EQUAL	EQ.	TOP OF FOOTING	T.O.F.
EQUIPMENT	EQUIP.	TOP OF MASONRY	T.O.M.
EXCAVATED	EXC.	TOP OF COVER ON CURB	T.O.C.
EXISTING	EXIST.	TOP OF STEEL	T.O.S.
EXPANSION	EXP.	TOP OF WALL	T.O.W.
EXPANSION BOLT	EXP.B.	TOTAL LOAD	T.L.
EXPANSION JOINT	E.J.	TREAD	T.
EXTERIOR	EXT.	TYPICAL	TYP.
FABRIC	FAB.	URINAL	URIN.
FEET, FOOT	FT.	UNLESS NOTED OTHERWISE	U.N.O.
FINISH, FINISHED	FIN.		
FINISH FLOOR	F.F.	VENT THRU ROOF	V.T.R.
FIRE ALARM	F.A.	VERTICAL, VERTICALLY	VERT.
FIRE EXTINGUISHER CABINET	F.E.C.	VESTIBULE	VEST.
FIRE HYDRANT	F.H.	VINYL COMPOSITION TILE	V.C.T.
FIRE HOSE CABINET	F.H.C.	VINYL TILE	V.T.
FIRE VALVE CABINET	F.V.C	VINYL WALL COVERING	V.W.C.
FIRE PROOFING	F.P.	VOLT	V.
FIXTURE	FIXT.		
FLASHING	FLASH.	WATER RESISTANT	W.R.
FLOOR	FL'R.	WATER PROOFING	W.P.
FLOOR DRAIN	F.D.	WATER CLOSET	WC.
FOOTING	F'TG	WELDED WIRE FABRIC	W.W.F.
FOUNDATION	FD'N	WINDOW	WIN
FRAME	FR.	WINDOW CONTRACTOR	WIN.CONTR.
FURNISH, FURNISHED	FURN.	WINDOW OPENING	W.O.
FURRED, FURRING	FURR.	WELDED WIRE MESH	W.W.M.
		WIRE MESH	W.M.
GAS	G.	WITH	W/
GRAB BAR	GB.	WITHOUT	W/O
GALVANIZED	GALV.	WOMEN	WOM
GALVANIZED IRON	G.I.	WOOD	WD.
GENERAL	GEN.	YARD	YD.
GENERAL CONTRACTOR	G.C.		
GLASS	GL.		
GRADE	GR.		
GYPSUM	GYP.		
HARDWARE	HDWR.		
HANDICAP	H.C.		
HEAT/VENT/AIR CONDITION	HVAC		
HEIGHT	HG'T		
HIGH POINT	H.P.		
TOWEL HOOK	HK.		
HOLLOW METAL	H.M.		
HORIZONTAL/HORIZONTALLY	HORIZ.		
HOSE BIB	H.B.		
HOT WATER	HW		
HOT WATER HEATER	H.W.H.		
HYDRANT	HYD.		
INCH OR INCHES	IN. OR "		
INFORMATION	INFO.		
INSIDE DIAMETER	I.D.		
INSTALL, INSTALLATION	INSTAL.		
INSULATE, INSULATION	INSUL.		
INTERIOR	INT.		
INVERT	INV.		
INVERT ELEVATION	I.E.		
JOINT	JT		
KICK PLATE	K.P.		
KNOCK OUT PANEL	K.O.P.		
LAMINATE/LAMINATED	LAM.		
LAVATORY	LAV.		
LEFT HAND REVERSE	L.H.R.		
LIGHT	LT.		
LIGHTING	LTG		
LIGHTING PANEL	L.P.		
LIGHTWEIGHT	LT'WT		
LIVE LOAD	L.L.		
LONG LEG HORIZONTAL	L.L.H.		
LONG LEG VERTICAL	L.L.V.		
LOUVER OPENING	L.O.		
LOW POINT	L.P.		
MACHINE	MACH.		
MANHOLE	MH		
MARBLE THRESHOLD	M.T.		
MASONRY	MAS.		
MASONRY OPENING	M.O.		
MATERIAL	MAT'L		
MAXIMUM	MAX.		
MECHANICAL	MECH.		
MEDIUM	MED.		
METAL OR METALLIC	MET.		
METAL EDGE STRIP	M.E.S.		
MEZZANINE	MEZZ.		
MINIMUM	MIN.		
MIRROR	MIR.		
MISCELLANEOUS	MISC.		
MISC. IRON CONTRACTOR	M.I.C.		
MOUNTED	MT'D		
MULLION	MULL.		
NATURAL	NAT.		
NOMINAL	NOM.		
NORTH	N		
NOT IN CONTRACT	N.I.C.		
NOT TO SCALE	N.T.S.		
NUMBER	NO. OR #		



SITE PLAN

SHEET SCHEDULE

SHEET NUMBER	SHEET NAME	4/15/24 PERMITS
CS.1	SITE COVER SHEET	●
CS.2	EXISTING SITE LAYOUT	●
S.1	SURVEY	●
C.1	PROPOSED SITE PLAN	●
C.2	SITE PARKING PLAN	●
C.3	LANDSCAPE AND LIGHTING PLAN	●
C.4	SESC / GRADING DRAINAGE PLAN	●
C.5	UTILITIES	●
C.6	STORMWATER PLAN	●
C.7	STORM TECH / DETAILS	●
C.8	SITE CONSTRUCTION DETAILS	●
C.9	SITE CONSTRUCTION DETAILS	●
A.1	SITE FLOOR PLANS	●
A.2	SITE ELEVATIONS	●
T1.1	TITLE SHEET	●
C1.1	GENERAL NOTES	●
C1.2	WALL TYPES / SCHEDULES	●
A1.1	FOUNDATION PLAN	●
A1.2	OVERALL FLOOR PLANS	●
A1.3	UNIT FLOOR PLAN / POWER PLAN	●
A1.4	EXTERIOR ELEVATIONS	●
A1.5	WALL SECTIONS	●
A1.6	ROOF PLANS / INTERIOR ELEVATIONS	●
A1.7	DETAILS	●
A1.8	DETAILS	●
N1.1	NOTES	●
P1.1	PLUMBING NOTES AND DETAILS	●
P2.0	PLUMBING FOUNDATION PLAN AND RISERS	●
P2.1	PLUMBING FLOOR PLANS	●
M1.1	MECHANICAL NOTES AND DETAILS	●
M2.1	MECHANICAL FLOOR PLANS	●
E1.1	ELECTRICAL RISERS AND NOTES	●
E2.1	ELECTRICAL FLOOR PLANS	●
E3.1	ELECTRICAL LIGHTING PLANS	●

PROJECT NUMBER:
CD. 202361

ARCHITECT OF RECORD:
TODD R. CALLAWAY, R.A.
LICENSE NO. 1301071997

PROJECT MANAGER / DESIGNER:
TODD R. CALLAWAY

DRAWN BY:
TC

NOTE:
ALL WORK ON THIS PROJECT SHALL BE COMPLETED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE, AND LOCAL CODES; THE LATEST EDITIONS ADOPTED BY THE BUILDING AUTHORITY.

PROJECT NAME: PENNSYLVANIA TOWNHOUSES

PROJECT ADDRESS: 500 PENNSYLVANIA AVE.
LANSING, MICHIGAN 48906

BUILDING OWNER: INGHAM COUNTY LAND BANK.
BUILDING OWNERS ADDRESS:

3024 TURNER ROAD
LANSING, MICHIGAN

BUILDING CODES:

2015 MICHIGAN RESIDENTIAL CODE
2018 MICHIGAN PLUMBING CODE
2015 MICHIGAN MECHANICAL CODE
2017 NATIONAL ELECTRICAL CODE
2015 INTERNATIONAL FIRE CODE

BARRIER FREE CODES:

ANSI A117.1, 2009, CHAPTER #11 M.B.C.
FEDERAL FAIR HOUSING

PROJECT TYPE: NEW CONSTRUCTION
BUILDING USE GROUP: R-4
BUILDING CONSTRUCTION TYPE: 5B
NUMBER OF FLOORS: 2
BUILDING HEIGHT: 26'-4"
AUTOMATIC FIRE SUPPRESSION SYSTEM: NO

BUILDING AREA:

2,304 GROSS HEATED AREA SQ.FT. - FIRST FLR.
2,375 GROSS HEATED AREA SQ.FT. - SECOND FLR.

DEFLECTION LIMITS:

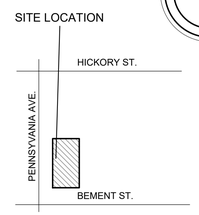
FLOOR - L/360
ROOF - L/240

SOIL BEARING CAPACITY - 2,500
LOAD BEARING CONCRETE P.S.I. - 3,000
NON-LOAD BEARING CONCRETE P.S.I. - 4,000

STRUCTURAL INFORMATION:

FLOOR LIVE LOAD -40 PSF
FLOOR DEAD LOAD - 10 PSF
ROOF LIVE LOAD - 30 PSF
ROOF DEAD LOAD -20 PSF
GROUND SNOW LOAD - 30 PSF
BALCONIES DEAD LOAD - 10 PSF
BALCONIES LIVE LOAD - 100 PSF
BASIC WIND SPEED AND EXPOSURE - 110 MPH.
EXPOSURE 'B'
SEISMIC DESIGN CATEGORY AND SITE CLASS - N/A
FLOOD DESIGN DATA - N/A

LOCATION MAP



TODD R. CALLAWAY & ASSOCIATES
ARCHITECTS - DESIGNERS
4648 Pine Street Rochester Hills, Michigan 48306
Ph: 586.343.4345, email: trcallaway@hotmail.com, www.trcallaway.com

SHEET DATES / DESC.
4/15/24 PERMITS

NEW CONSTRUCTION

Pennsylvania Townhouses
INGHAM COUNTY LAND BANK

LANSING, MICHIGAN

TITLE SHEET

T1.1

CONSTRUCTION NOTES

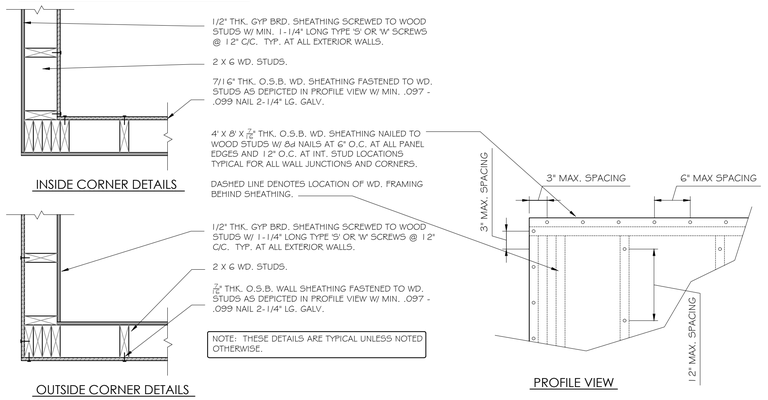
1. THE CONTRACTOR SHALL EXAMINE AND BECOME FAMILIAR WITH ALL CONTRACT DOCUMENTS IN THEIR ENTIRETY. SURVEY THE PROJECT AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND SCOPE OF WORK. ALL COSTS SUBMITTED SHALL BE BASED ON THOROUGH KNOW- LEDGE OF ALL WORK AND MATERIALS REQUIRED. ANY DISCREPANCY AND/OR UNCERTAINTY AS TO WHAT MATERIAL OR PRODUCT IS TO BE USED SHOULD BE VERIFIED WITH THE OWNER OR ARCHITECT.
2. ALL CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE FEDERAL, LOCAL, AND STATE CODES AND AMENDMENTS
3. ALL SITE WORK AND LANDSCAPING IS TO BE ESTABLISHED AND DESIGNED BY CIVIL AND LANDSCAPE ARCHITECT.
4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES REQUIRED FOR SAFE EXECUTION AND COMPLETION OF WORK, AND FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
5. ANY ERRORS, OMISSIONS OR INCONSISTENCIES ON THESE DRAWINGS OR ANY VARIATIONS OR AMBIGUITIES BETWEEN THESE DRAWINGS AND ACTUAL SITE AND CONSTRUCTION CONDITIONS AND/OR REQUIREMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING IMMEDIATELY.
6. IN THE EVENT A DISCREPANCY IS FOUND IN THE CONTRACT DOCUMENTS, THE OWNER AND ARCHITECT SHALL BE NOTIFIED IMMEDIATELY.
7. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
8. CONTRACTOR SHALL VERIFY ALL MEASUREMENTS AT SITE AND BE RESPONSIBLE FOR ACCURACY AND CORRECTNESS OF SAME.
9. CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES. NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
10. INSTALLATION OF ALL EQUIPMENT SHALL BE IN CONFORMANCE WITH ALL MANUFACTURERS RECOMMENDATIONS AND SPECIFICATIONS.NOT USED
11. STORE MATERIALS IN SPACES DESIGNATED BY OWNER.
12. REMOVE RUBBISH FROM PREMISES AS OFTEN AS NECESSARY OR AS DIRECTED TO MAINTAIN CLEAN AND SAFE PROJECT.
13. ALL WORK AND EQUIPMENT SHALL BE CLEANED TO THE SATISFACTION OF THE OWNER BEFORE TURNING SAME OVER TO OWNER.
14. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND OWNER FOR APPROVAL PRIOR TO ORDERING, FABRICATION AND INSTALLATION FOR ANY EQUIPMENT. SEE NOTE SHEET FOR SUBMITTAL REQUIREMENTS.
15. THE CONTRACTOR SHALL PAY ALL FEES, GIVE ALL NOTICES, FILE ALL NECESSARY DRAWINGS AND OBTAIN ALL PERMITS AND CERTIFICATES OR APPROVAL REQUIRED IN CONNECTION WITH ALL WORK UNDER THESE CONTRACT DOCUMENTS. HE OR SHE SHALL COMPLY WITH ALL LAWS, ORDINANCES, RULES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION.
16. THERE SHALL BE NO DEVIATION FROM SPECIFICATIONS WITHOUT THE WRITTEN APPROVAL OF THE OWNER, ARCHITECT AND/OR ENGINEER.
17. THE CONTRACTOR SHALL EMPLOY AN APPROVED TESTING LABORATORY TO MAKE ALL TESTS FOR CONCRETE, SOIL COMPACTION, WELDING OF STEEL, SHEER NAILING, AND ROOFING TO INSURE COMPLIANCE WITH PLANS, STANDARDS AND CODES. ALSO PROVIDE WRITTEN RESULTS TO ARCHITECT AND BUILDING DEPARTMENT, FOR THEIR REVIEW.
18. DRYWALL INSTALLATION SHALL BE IN CONFORMANCE WITH THE GYPSUM ASSOCIATION'S RECOMMENDED PRACTICES FOR THICKNESS, NAILING, TAPING AND CORRECT STUD SPACING.
19. ALL FRAMING TO BE IN CONFORMANCE WITH THE NATIONAL FOREST PRODUCTS "MANUAL FOR HOUSE FRAMING."
20. THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, OPENINGS AND CHARACTERISTICS OF ALL WORK AND EQUIPMENT TO BE FURNISHED BY THE OWNER OR OTHERS WITH THE MANUFACTURER OR SUPPLIER BEFORE STARTING ANY CONSTRUCTION RELATED TO SAID WORK AND/OR EQUIPMENT.
21. ALL MATERIALS SHALL BE NEW AND OF PREFERRED DOMESTIC MANUFACTURE AND SHALL BE INSTALLED IN STRICT CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS AND/OR RECOMMENDATIONS UNLESS INDICATED OTHERWISE IN THE DRAWINGS AND SPECIFICATIONS. ANY CONFLICT FOUND BETWEEN MANUFACTURER'S INSTRUCTIONS AND THE DRAWINGS OR SPECIFICATIONS SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER/ARCHITECT PRIOR TO INSTALLATION.
22. UNLESS NOTED OTHERWISE IN THE PLANS ALL LUMBER SHALL BE SPF #2 OR BETTER FOR ROUGH CARPENTRY.
23. REFER TO MEP AND LANDSCAPE DRAWINGS FOR EXTERIOR SITE LIGHTING.
24. REFER TO CIVIL AND LANDSCAPE DRAWINGS FOR LOCATION OF SIDEWALKS AND DETAILS.
25. NEVER ASSUME DIMENSIONS FOR SHOP DRAWINGS. IF NO DIMENSION IS LISTED FOR A REQUIRED ITEM, CONSULT WITH THE ARCHITECT IMMEDIATELY. ITEMS THAT REQUIRED ARCHITECTS SPECIAL ATTENTION SHALL BE LISTED WITHIN THE SHOPS. THE ARCHITECT AND OWNER SHALL NOT BE RESPONSIBLE FOR FIELD DIMENSIONS, EVERY TRADE SHALL BE HELD RESPONSIBLE FOR FIELD MEASURING THEIR PORTION OF WORK.
26. ALL STAINED WOOD SHALL HAVE ONE COAT OF STAIN AND TWO COATS OF VARNISH. LIGHTLY SAND BETWEEN VARNISH APPLICATIONS.
27. DO NOT SCALE DRAWINGS. ALL DIMENSIONS ARE TO FACE OF STUD U.N.O.
28. LOCATION OF MECHANICAL UNITS ARE APPROXIMATE. INSTALL PER MANUFACTURER'S REQUIREMENTS.
29. REFER TO CIVIL DRAWINGS FOR DIMENSIONAL CONTROL PLAN AND ROUGH GRADING.
30. REFER TO CIVIL DRAWINGS FOR FIRE HYDRANT LOCATIONS.
31. REFER TO CIVIL AND MEP AND LANDSCAPE DRAWINGS FOR TRANSFORMER LOCATIONS. (TO BE VERIFIED WITH LOCAL UTILITY SERVICE.)
32. REFER TO CIVIL DRAWINGS FOR CURB CUTS.
33. REFER TO MEP DRAWINGS FOR LOCATION OF ELECTRICAL AND GAS METERS.
34. CONTRACTOR TO VERIFY WITH ARCHITECT FOR ANY REQUIRED CHASE AREAS NOT SHOWN ON DRAWINGS. ALL SHOP DRAWINGS TO BE SUBMITTED FOR REVIEW PRIOR TO ORDERING ANY EQUIPMENT.
35. ALL EXISTING WORK OR LANDSCAPING NOT SHOWN TO BE ALTERED OR REMOVED SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. THE CONTRACTOR SHALL BEAR THE TOTAL EXPENSE FOR AND SHALL REPAIR, TO EXISTING CONDITION, ANY DAMAGE TO EXISTING CONSTRUCTION, EQUIPMENT OR IMPROVEMENTS NOT INDICATED IN THE DRAWINGS OR SPECIFICATIONS TO RECEIVE ALTERATIONS, ADDITIONS OR REMOVAL.
36. THE CONTRACTOR SHALL BEAR THE TOTAL EXPENSE FOR, AND SHALL REPAIR TO EXISTING CONDITION, ANY DAMAGE TO EXISTING UNDERGROUND UTILITIES, PIPING, CONDUIT OR EQUIPMENT.
37. SPECIFIED PRODUCTS HAVE BEEN USED IN PREPARING THE CONTRACT DOCUMENTS TO ESTABLISH MINIMUM QUALITIES.
38. WHEN A SPECIFICATION HAS NOT BEEN PROVIDED, SEE NOTE SHEETS WITHIN THIS PACKAGE FOR A LIST OF RODUCTS.
39. THE CONTRACTOR MUST PROVIDE ALL REQUIRED RATINGS FOR FIRE-RESISTIVE TENANT SEPARATION WALLS, FLOOR/CEILING ASSEMBLIES, IN ACCORDANCE WITH THE LATEST EDITION OF THE GOVERNING CODE AND LOCAL CODES.
40. STATIC COEFFICIENT OF FRICTION (SCOF) SHALL BE A MINIMUM OF 0.1 FOR ALL RAMPS AND ALL ACCESSIBLE ROUTES (SIDEWALKS) 0.8 TO AVOID SLIPPERY FOOTING.
41. THE CONTRACTOR SHALL VERIFY ALL ROUGH OPENINGS.
42. ALL WINDOW AND DOOR OPENINGS SHALL BE FLASHED IN CONFORMANCE WITH MANUFACTURERS RECOMMENDATIONS AND SPECIFICATIONS.

GENERAL NOTES

51. ALL STUD WALLS ARE DIMENSIONED 3 1/2" OR 5 1/2" FOR INTERIOR WALLS AND 6" FOR EXTERIOR WALLS. (ACTUAL) U.N.O.
52. STUD SPACING SHALL BE AS FOLLOWS: REFER TO ARCHITECTURAL NOTES AND STRUCTURAL FRAMING PLANS FOR ALL STUD SIZING AND SPACING OR AS CODE REQUIRES.
53. ATTIC ACCESSES TO BE NOT LESS THAN 20" X 30" (CLEAR OPENING).
54. ROOFING SHALL BE CLASS-A (MINIMUM). SEE STRUCTURAL INFORMATION FOR OTHER CRITERIA.
55. ALL WOOD SOLE PLATES IN CONTACT WITH CONCRETE TO BE BE PRESSURE TREATED AND HAVE A CONTINUOUS SILL SEALER BETWEEN THE TOP OF THE FOUNDATION WALL AND THE BOTTOM OF THE PLATE.
56. ALL HOSE BIBS SHALL BE FROST FREE.
59. ALL HANDICAPPED RAMPS SHALL BE BROOM FINISHED PERPENDICULAR TO SLOPE. CONTRACTOR MUST PROVIDE 0.8 SLOPE ON ALL RAMPS. SLOPE RAMPS AT 1:12 (MAX.) REFER TO LANDSCAPE AND CIVIL DRAWINGS FOR DETAILS. ZERO TOLERANCE ALLOWED.
60. CABINET SUPPLIER TO FIELD MEASURE AREA OF WORK AFTER ROUGH FRAMING, TO ASSURE AN EXACT FIT. NOTIFY ARCHITECT OF ANY DISCREPANCIES.
61. CEMENT BACKER BOARD SHALL BE USED IN BOTH TUB AND SHOWER COMPARTMENTS WHERE TILE IS APPLIED, UNLESS NOTED OTHERWISE. INSTALLATION OF ALL TILE SHALL CONFORM WITH THE TCA LATEST EDITION FOR TILE INSTALLATION. WHERE TILE ABUTS A RATED WALL TILE BACKER BOARD SHALL BE INSTALLED OVER RATED DRYWALL.
62. SEE ROOM FINISH SCHEDULE FOR SPECIFIED FLOOR FINISHES.
63. SEE TITLE SHEET FOR FLAME SPREAD RATINGS OF MATERIALS.
64. ALL EXPOSED MATERIALS FOR BALCONIES, SOFFITS, OVERHANGS, ETC, TO BE APPROVED EXTERIOR GRADE MATERIALS ONLY AND PER CODE.
65. SPECIAL CARE SHALL BE TAKEN TO MAKE SURE THAT ALL PIPING LOCATED WITHIN EXTERIOR WALLS ARE PROTECTED FROM FREEZING, BUILDING SHRINKAGE AND MOVEMENT.
66. SUBMIT ENGINEERED SHOP DRAWINGS FOR PREFABRICATED WOOD TRUSSES AND FOR THE FIRE SUPPRESSION SYSTEM (WHEN REQUIRED) TO THE ARCHITECT FOR REVIEW PRIOR TO START OF GENERAL CONSTRUCTION.
67. FRAMING AT WINDOWS AND DOORS SHALL BE ADEQUATE TO MINIMIZE MOVEMENT AND LESSEN CRACKING OF EXTERIOR MATERIALS (DOUBLE STUDS REQUIRED IN SOME LOCATIONS).
68. ANY AND ALL PRECAUTIONS OVER AND ABOVE ANY SHOWN ON PLANS SHALL BE TAKEN BY CONTRACTOR TO MINIMIZE EXTERIOR AND INTERIOR MATERIALS FROM CRACKING.
69. INSULATE ALL EXTERIOR WALLS AS INDICATED WITHIN THESE CONSTRUCTION DRAWINGS. SEE WALL AND FLOOR/ROOF ASSEMBLIES FOR MORE INFORMATION. TAKE PRECAUTIONS SO THAT ANY PIPING IN WALLS IS CLOSE TO THE BACK SIDE OF DRYWALL AND PROPERLY INSULATED SO THAT FREEZING DOES NOT OCCUR.
70. INSTALL EPDM OR CORRISION RESISTANT FLASHING AT THE HEAD, SILL, AND JAMBS OF ALL WINDOWS, ROOF OPENINGS, AND THE INTERSECTION OF ROOF AND FRAME WALLS. SEALANT TO BE USED AT THE TOP AND SIDES TO GUARANTEE LEAK-PROOF CONSTRUCTION. U.N.O.
71. ADD SEALANT TO ALL EXTERIOR JOINTS AROUND WINDOWS AND DOOR FRAMES, BETWEEN WALL PANELS, AND TO ALL PENETRATIONS OR UTILITIES THROUGH WALLS AND ROOFS. REF. TO LOCAL CODES (OR M.E.P.) FOR ADDITIONAL REQUIREMENTS.
72. PROVIDE SELF-ADHEREING BITUTHENE AT HEAD, JAMB AND SILL OF ALL DOORS AND WINDOWS.
73. WIND BRACE WALLS PER STRUCTURAL DRAWINGS OR AS REQUIRED BY CODE.
74. SEE DRAWINGS FOR STAIR RISER HEIGHTS AND TREAD DEPTHS.
75. SMOKE DETECTORS ARE REQUIRED AND SHALL CONFORM TO MBC 907.2.9 AND LOCAL GOVERNMENTAL OR NATIONAL REQUIREMENTS INCLUDING NUMBER, LOCATION, ETC.
76. ALL PATIOS AND PORCHES AND GARAGE SLABS TO SLOPE IN A DIRECTION AWAY FROM THE BUILDING SO AS TO SHED WATER AWAY FROM THE BUILDING. U.N.O..
77. NOT USED
78. NOT USED
79. MINIMUM GUTTER SIZE TO BE 5" WITH 3" X 4" DOWNSPOUT LEADERS OFF GUTTERS. WHERE DOWNSPOUTS DISCHARGE TO GRADE ALL DOWNPSOUTS SHALL BE TIED TO SUBSURFACE DRAINAGE U.N.O.. ALL GUTTERS AND DOWNSPOUTS SHALL BE EXTRUDED ALUMINUM.
80. INSTALL BLOCKING IN BATH AND KITCHEN WALL CAVITIES WHERE NEEDED TO SUPPORT CABINETS. PROVIDE ADEQUATE WOOD BLOCKING BETWEEN STUDS FOR ATTACHMENT OF STAIR HANDRAILS, BALCONY GUARDRAILS, LIGHT FIXTURES AND ALL OTHER WALL HUNG ITEMS. SEE INTERIOR ELEVATIONS FOR ADDITIONAL LOCATIONS.
81. WHERE INDICATED, RAILING SUB-CONTRACTOR TO VERIFY POUND FORCE ON GUARD RAILING TO DETERMINE ADEQUATE NUMBER OF SUPPORT POSTS. NO MIDDLE SUPPORT PREFERRED.
82. FLASHING SHALL BE INSTALLED AROUND ALL WINDOW, DOOR AND ROOF OPENINGS AND AT THE INTERSECTION OF CHIMNEYS, WOOD CONSTRUCTION, AND FRAME WALLS. CAULK AND MAKE WEATHER-TIGHT.
83. TOWEL BARS AND TOILET PAPER HOLDERS ARE REQUIRED IN EACH BATHROOM. PROPER BLOCKING IS REQUIRED FOR INSTALLATION.
84. PRE-ROCK ALL TRUSS CAVITIES AS REQUIRED TO MAINTAIN FIRE RATING AT DUCT PENETRATIONS, WHERE THEY OCCUR.
85. INSULATE ALL EXTERIOR WET WALLS AS REQUIRED TO PROTECT PIPING FROM FREEZING.
86. ALL DRYER VENT HOOKUP TO BE AT STANDARD HEIGHT. ALL RANGE HOODS TO BE DUCTED DIRECTLY TO THE OUTSIDE. ALL EXHAUST FANS SHALL BE DUCTED TO THE OUTSIDE AND SHALL MAINTAIN A CONSISTENT PENETRATION PATTERN IN BOTH WALLS AND ROOFS.
87. PROVIDE SOLID BLOCKING AND/OR DOUBLE JOISTS UNDER ALL PERPENDICULAR AND PARALLEL PARTITIONS AND AT STAIR OPENINGS.
88. ALL WORK AND EQUIPMENT TO BE FULLY GUARANTEED FOR ONE (1) YEAR FROM DATE OF FINAL PAYMENT AND ACCEPTANCE.
89. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERSONALLY INSPECT THE WORK IN PROGRESS, AND AS A WHOLE, ASSURING HIMSELF THAT THE WORK ON ANY OR ALL OR PART OF THE PROJECT IS READY FOR PERIODIC AND/OR FINAL REVIEW, BEFORE CALLING UPON THE ARCHITECT AND OWNER TO MAKE THEIR SITE/PROJECT OBSERVATION VISIT OF THE WORK.
90. IF NO WINDOW IS PART OF THE MAIN ENTRANCE DOOR A "PEEP HOLE" VIEWER SHALL BE INSTALLED. ACCESSIBLE UNITS TO HAVE TWO DOOR VIEWERS AT REQUIRED HEIGHTS.
91. PROVIDE WOOD BLOCKING IN CEILING AT CEILING FIXTURE OF ALL BEDROOMS FOR FUTURE CEILING FAN INSTALLATION
92. IN COMBUSTIBLE CONSTRUCTION, FIREBLOCKING SHALL BE INSTALLED TO CUT OFF CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND SHALL FORM AN EFFECTIVE BARRIER BETWEEN FLOORS, BETWEEN A TOP STORY AND A ROOF OR ATTIC SPACE.
93. FIREBLOCKING SHALL BE PROVIDED IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AT THE CEILING AND FLOOR LEVELS AND AT 10-FOOT INTERVALS BOTH VERTICAL AND HORIZONTAL. TYPICAL FOR MULTI-UNIT BLDGS ONLY.
94. UNLESS NOTED OTHERWISE ALL WOOD SHALL BE SPRUCE-PINE-FUR #2. ALL INTERIOR PAINTED WOOD TRIM SHALL BE POPLAR WITH THE EXCEPTION OF ANY CABINETRY ITEMS AND ALL EXTERIOR TRIM SHALL BE COMPOSITE MATERIALS TO MATCH SIDING AND SHALL BOTH BE SUPPLIED BY A SINGLE MANUFACTURER. COMPOSITE TRIM SHALL BE COLOR IMPREGNATED AND 3/4" THK. UNLESS NOTED OTHERWISE.
95. ALL GARAGES SHALL BE FINISHED WITH 5/8" FIRECODE GYP. BRD. AT ALL INTERIOR WALLS THAT ABUT THE COMMON WALLS WITH THE HOME, AND ALL CEILINGS.

BRACED WALL COMPLIANCE

BRACED WALL COMPLIANCE



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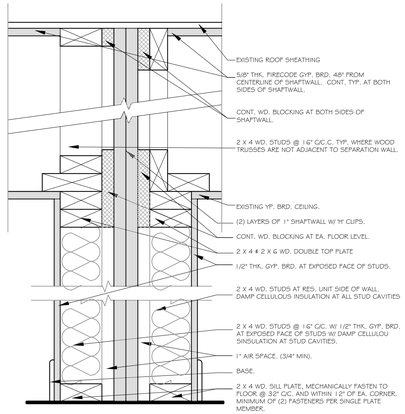
INGHAM COUNTY LAND BANK

LANSING, MICHIGAN

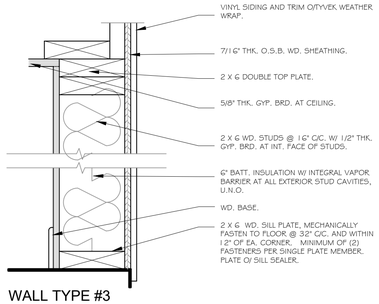
PROJ. NOTES

C1.1

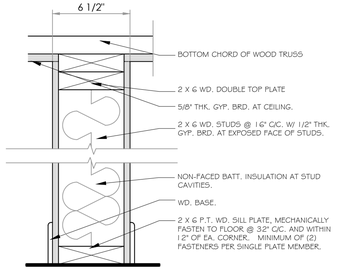
WALL TYPE SECTIONS



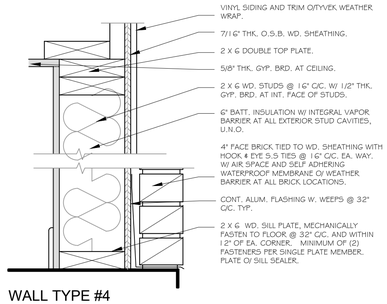
WALL TYPE #5



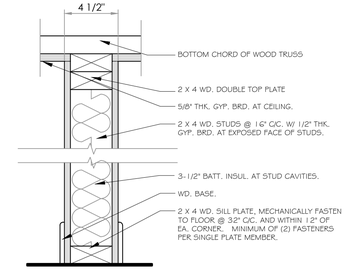
WALL TYPE #3



WALL TYPE #1



WALL TYPE #4

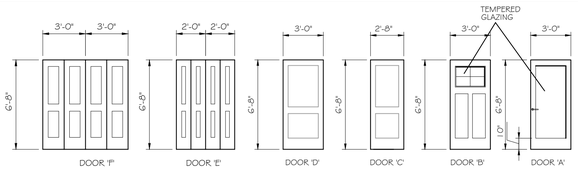


WALL TYPE #2

DOOR SCHEDULE

DOOR NO.	DOOR SIZE	HARDWARE GROUP	DOOR MAT.	DOOR RATING	DOOR LETTER	FRAME SIZE	FRAME MAT.	FRAME RATING	REMARKS
002A	3'-0" X 6'-8"	4	FIBERGLASS	N/A	B	PRE-HUNG DOOR.	WOOD	N/A	SOLID CORE INSULATED. INSUL. & TEMPERED GLAZING.
003A	3'-0" X 6'-8"	3	WOOD	N/A	E	PRE-HUNG DOOR.	WOOD	N/A	HOLLOW CORE WOOD DOOR (2) PANEL.
004A	3'-0" X 6'-8"	4	FIBERGLASS	N/A	A	PRE-HUNG DOOR.	WOOD	N/A	SOLID CORE INSULATED. INSUL. & TEMPERED GLAZING.
005A	3'-0" X 6'-8"	1	WOOD	N/A	D	PRE-HUNG DOOR.	WOOD	N/A	HOLLOW CORE WOOD DOOR (2) PANEL.
006A	PR. 2'-0" X 6'-8"	2	WOOD	N/A	E	PRE-HUNG DOOR.	WOOD	N/A	HOLLOW CORE WOOD DOOR (2) PANEL.
007A	PR. 3'-0" X 6'-8"	2	WOOD	N/A	F	PRE-HUNG DOOR.	WOOD	N/A	HOLLOW CORE WOOD DOOR (2) PANEL.
007B	2'-8" X 6'-8"	1	WOOD	N/A	C	PRE-HUNG DOOR.	WOOD	N/A	HOLLOW CORE WOOD DOOR (2) PANEL.
008A	2'-8" X 6'-8"	1	WOOD	N/A	C	PRE-HUNG DOOR.	WOOD	N/A	HOLLOW CORE WOOD DOOR (2) PANEL.
008B	2'-8" X 6'-8"	1	WOOD	N/A	C	PRE-HUNG DOOR.	WOOD	N/A	HOLLOW CORE WOOD DOOR (2) PANEL.
009A	2'-8" X 6'-8"	3	WOOD	N/A	C	PRE-HUNG DOOR.	WOOD	N/A	HOLLOW CORE WOOD DOOR (2) PANEL.
009B	2'-8" X 6'-8"	1	WOOD	N/A	C	PRE-HUNG DOOR.	WOOD	N/A	HOLLOW CORE WOOD DOOR (2) PANEL.
009C	2'-8" X 6'-8"	3	WOOD	N/A	C	PRE-HUNG DOOR.	WOOD	N/A	HOLLOW CORE WOOD DOOR (2) PANEL.

DOOR ELEVATIONS & NOTES



DOOR NOTE #1:

ALL DOORS SHALL BE FACTORY PRIMED AND FIELD PAINTED.

DOOR NOTE #2:

ALL EXTERIOR DOORS WITH GLAZING SHALL HAVE TEMPERED AND INSULATED GLASS.

HARDWARE GROUP #6

(1) SECTIONAL DOOR HARDWARE
(1) DOOR OPENER W/ REMOTE SWITCH AND CONTROLLERS.

HARDWARE GROUP #4

(3) BUTT HINGES
(1) DOOR STOP
(1) LEVER HANDLE LOCKSET.
(1) DEADBOLT
(2) STRIKE PLATES
(1) MTL. THRESHOLD.
(1) WEATHERSTRIPPING.

HARDWARE GROUP #5

(3) BUTT HINGES
(1) DOOR STOP
(1) LEVER HANDLE LOCKSET.
(1) STRIKE PLATE
(1) MTL. THRESHOLD.
(1) WEATHERSTRIPPING.

HARDWARE GROUP #1

(3) BUTT HINGES
(1) LEVER HANDLE LOCKSET
(1) STRIKE PLATE
(1) DOOR STOP

HARDWARE GROUP #2

BIFOLD HARDWARE WITH TRACK AND KNOB HANDLE AT ONE SIDE OF EA. DOOR.

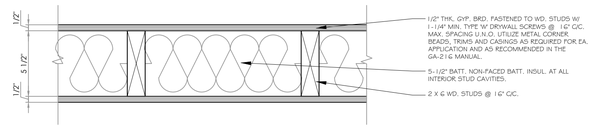
HARDWARE GROUP #3

(3) EA. BUTT HINGES
(1) LEVER HANDLE PASSAGE SET.
(1) DOOR STOP
(1) DOOR STRIKE

WALL TYPES

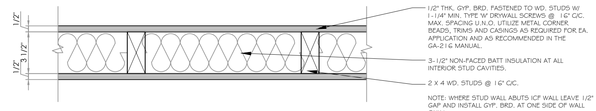
① WALL TYPE #1

NON-RATED 2 X 6 INTERIOR STUD WALL.
STC RATING: N/A



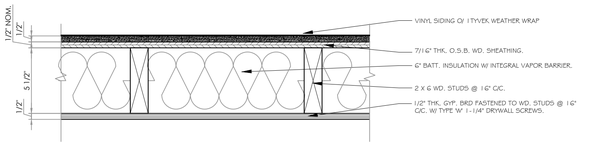
② WALL TYPE #2

NON-RATED 2 X 4 WOOD STUD WALL.
STC RATING: N/A



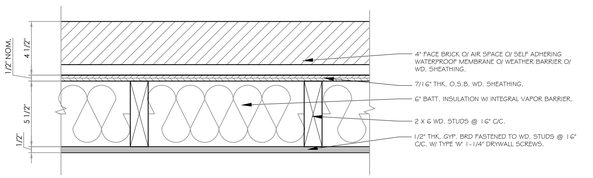
③ WALL TYPE #3

2 X 6 EXTERIOR WOOD STUD WALLS - E.I.F.S. FINISH



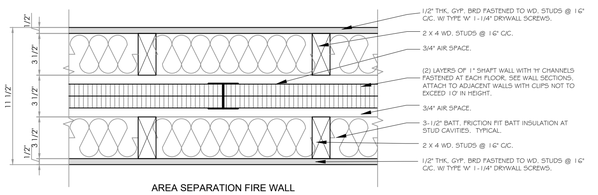
④ WALL TYPE #4

2 X 6 EXTERIOR WOOD STUD WALLS W/ BRICK VENEER



⑤ WALL TYPE #6

(2) HOUR RATED 2 X 4 WOOD STUD SHAFT WALL.
STC RATING: 66 | FIRE TEST: U.L. U336 - (2) HOUR RATED, AREA SEPARATION WALL.



AREA SEPARATION FIRE WALL

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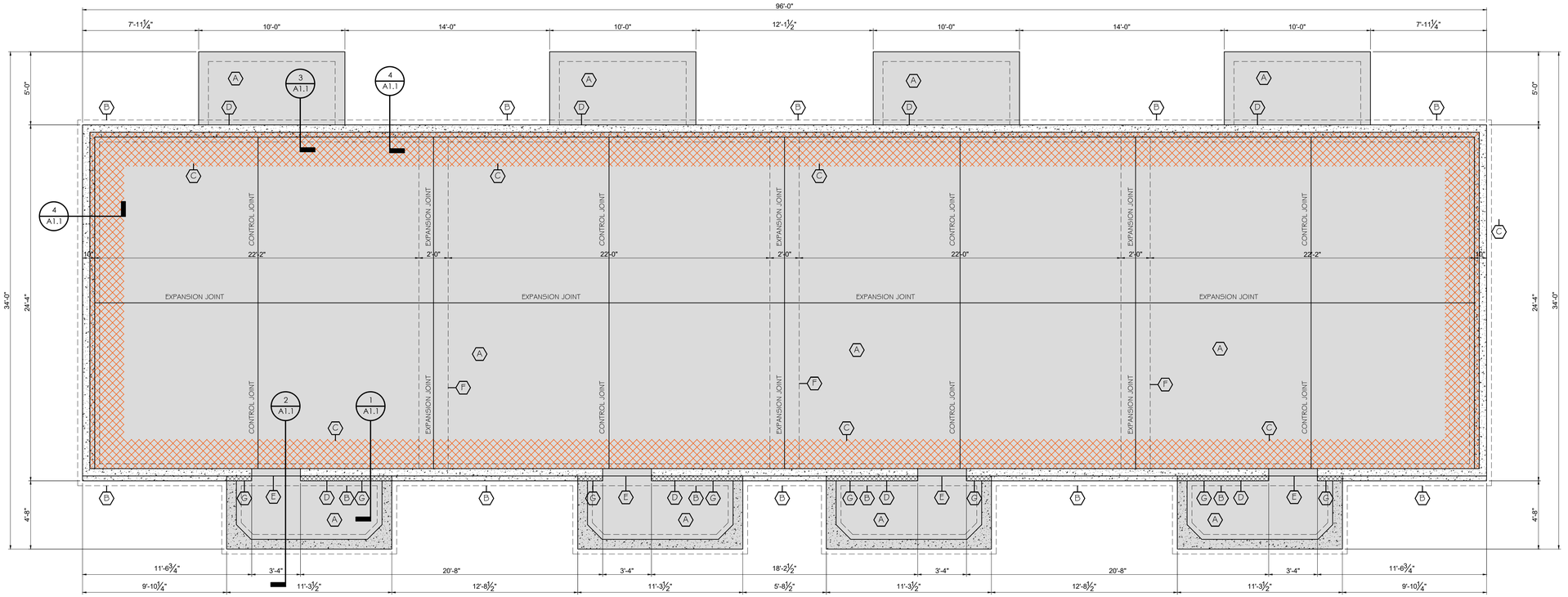
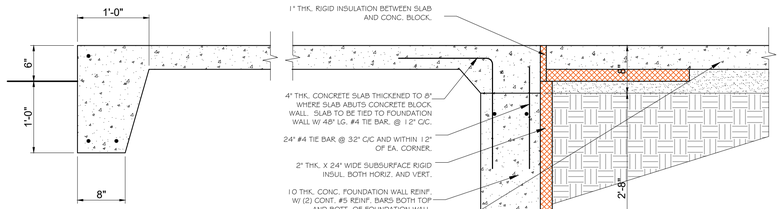
WALL TYPES
DOOR SCHEDULE

C1.2



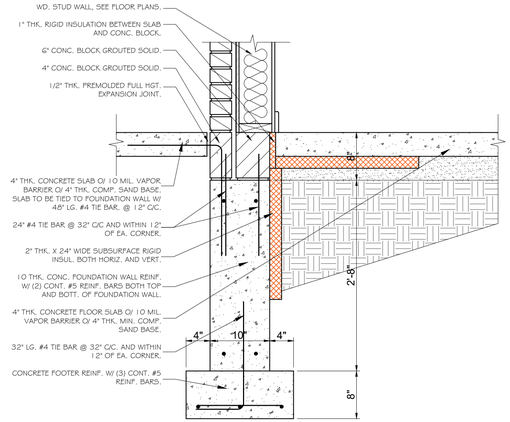
FOUNDATION PLAN

SCALE: 1/4" = 1'-0"



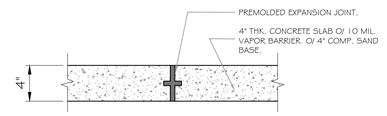
2 A1.1 **FOUNDATION WALL SECTION**

SCALE: 3/4" = 1'-0"



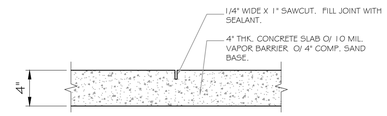
1 A1.1 **FOUNDATION WALL SECTION**

SCALE: 3/4" = 1'-0"



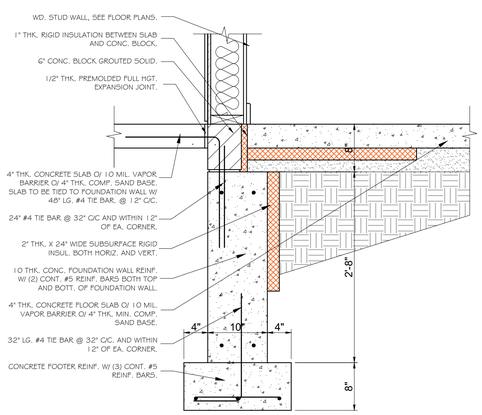
CONTROL JOINT DETAIL

SCALE: 1-1/2" = 1'-0"



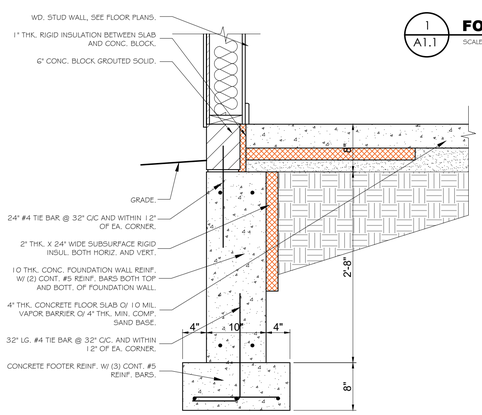
EXPANSION JOINT DETAIL

SCALE: 1-1/2" = 1'-0"



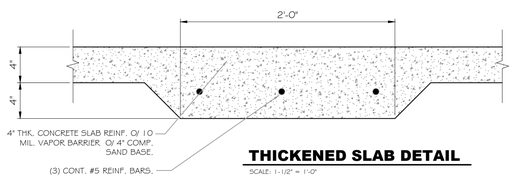
3 A1.1 **FOUNDATION WALL SECTION**

SCALE: 3/4" = 1'-0"



4 A1.1 **FOUNDATION WALL SECTION**

SCALE: 3/4" = 1'-0"



THICKENED SLAB DETAIL

SCALE: 1-1/2" = 1'-0"

GENERAL NOTES

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO THE START OF CONSTRUCTION. ANY CONDITIONS FOUND TO BE CONTRARY TO WHAT IS INDICATED WITHIN THESE DOCUMENTS SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY.
2. ALL CONTRACTORS AND ANY OTHER PERSONS DOING WORK ON THIS BUILDING SHALL BE RESPONSIBLE TO BE FAMILIAR WITH THE CONTENTS OF ALL OF THE CONSTRUCTION DOCUMENTS.
3. ALL INTERIOR DIMENSIONS ARE TAKEN TO THE FACE OF THE STUD. ALL EXTERIOR DIMENSIONS ARE TAKEN TO THE FACE OF THE WALL SHEATHING U.N.O. AND ALL WINDOWS ARE TAKEN TO THE CENTERLINE OF THE WINDOW.
4. ALL ANGLES ARE 45 DEG. TO HORIZONTAL & VERTICAL DIRECTIONS U.N.O.
5. SOUND INSULATE ALL WALLS SURROUNDING LAUNDRY ROOMS, PLUMBING STACKS AND HVAC UTILITY CLOSETS. ALL WATER SUPPLY PIPING INSTALLED IN EXTERIOR WALLS SHALL BE PLACED CLOSE TO BACK SIDE OF DRYWALL AND FULLY PROTECTED FROM FREEZING.
6. ALL INTERIOR DOORS SHALL BE UNDERCUT 3/4" TO ALLOW FOR RETURN AIR FLOW.
7. INSTALL WD. BLOCKING IN ALL WALLS TO RECEIVE WALL HUNG ITEMS.
8. UTILIZE TEMPERED GLAZING AS REQUIRED TO MEET ALL LOCAL CODE COMPLIANCE ISSUES. WINDOW SUPPLIER SHALL BE RESPONSIBLE FOR PROVIDING TEMPERED WINDOW GLAZING IN THE APPROPRIATE AREAS.
9. TOWEL BARS LOCATED ABOVE TOILETS SHALL BE LOCATED AT 60" A.F.F., ALL OTHER TOWEL BARS SHALL BE LOCATED AT 48" A.F.F., TOILET PAPER DISPENSERS SHALL BE LOCATED AT 24" A.F.F. AND TOWEL RINGS LOCATED ABOVE LAVATORY COUNTERS SHALL BE SET AT 24" ABOVE COUNTER. BARRIER FREE REQUIREMENTS SUPERCEDE THESE DIMENSIONS AS DEPICTED ON THE BARRIER FREE STANDARDS SHEET.
10. VERIFY ALL TUB AND SHOWER ROUGH OPENING DIMENSIONS WITH AN ACTUAL TUB AND SHOWER UNIT.
11. ALL PRODUCTS SHALL BE INSTALLED IN COMPLIANCE WITH ALL MANUFACTURERS RECOMMENDATIONS AND SPECIFICATIONS.
12. WATER RESISTANT GYP. BRD. SHALL BE USED IN LIEU OF STANDARD GYP. BRD. AT ALL BATHROOMS AND WET AREAS.
13. INSTALL STANDARD WOOD BLOCKING OR METAL STRAPS WITHIN ALL WALLS THAT ARE TO RECEIVE WALL HUNG ITEMS AND FUTURE WALL HUNG ITEMS.
14. INTERIOR ELEVATIONS ARE FOR SCHEMATIC PURPOSES ONLY. ACTUAL DIMENSIONS AND CABINET DESIGNS SHALL BE BY THE CABINET SUPPLIER.
15. ALL PRODUCT SELECTIONS SHALL BE BY THE OWNER. VERIFY DIMENSIONS INDICATED WITH OWNER SUPPLIED PRODUCTS.
16. SEE MECHANICAL AND ELECTRICAL DRAWINGS, SUPPLIED BY OTHERS, FOR ALL OF THOSE ITEMS AND THEIR APPROXIMATE LOCATIONS.
17. ALL TUB/SHOWER UNITS TO HAVE SHOWER RODS MOUNTED AT 72-1/2" FROM FINISH FLOOR TO BOTTOM OF ROD. ALL WALK IN SHOWER UNITS TO HAVE SHOWER RODS MOUNTED AT 79" A.F.F.
18. PROVIDE ADJUSTABLE SHELVES, HINGES, DRAWER PULLS AT ALL APPLICABLE LOCATIONS.
19. ALL RANGE EXHAUST HOODS SHALL BE RECIRCULATING TO INTERIOR U.N.O.
20. INSTALL 'J' CHANNEL AT ALL WINDOWS.
21. UTILIZE 3,000 PSI CONCRETE ALL INTERIOR SLABS, FOUNDATION WALLS AND FOOTERS. EXTERIOR SLABS SHALL UTILIZE 4,000 PSI CONCRETE.
22. BACKFILL ALL FOUNDATION WALLS WITH GRANULAR MATERIAL ONLY. ALL DRAIN TILE SHALL HAVE SILT SOCKS AND SHALL BE SURROUND WITH A MINIMUM OF 24" OF PEASTONE VERT. AND HORIZONTALLY.
23. FOUNDATIONS ARE ENGINEERED WITH ASSUMED SOIL BEARING CAPACITY OF 2,500 PSF. CONTRACTOR SHALL VERIFY SOIL CONDITIONS.
24. INSULATED CONCRETE FORMS SHALL BE INSTALLED IN CONFORMANCE WITH MANUFACTURERS RECOMMENDATIONS AND SPECIFICATIONS.

FOUNDATION NOTES

- (A) 4" THK. CONCRETE FLOOR SLAB O/ 10 MIL. VAPOR BARRIER O/ MIN. 4" THK. COMP. SAND BASE.
- (B) DASHED LINE DENOTES LOCATION CONCRETE FOOTER.
- (C) HATCHED AREA DENOTES LOCATION OF 2" THK. X 24" WIDE SUB-SURFACE OF HORIZ. INSULATION. SEE SECTIONS FOR MORE INFORMATION.
- (D) INSTALL TIE BARS WHERE SLAB ABUTS BLOCK WALL. SEE DETAILS.
- (E) ROLL DOWN INTERIOR CONC. SLAB TO TOP OF FOUNDATION WALL, INSTALL NEW 1/2" PREMOLDED EXPANSION JOINT BETWEEN INTERIOR AND EXTERIOR FLOOR SLABS.
- (F) THICKENED SLAB LOCATION.
- (G) CROSS HATCHED AREA DENOTES LOCATION OF 4" CONC. BLOCK LOCATIONS.

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4/15/2024

NEW CONSTRUCTION

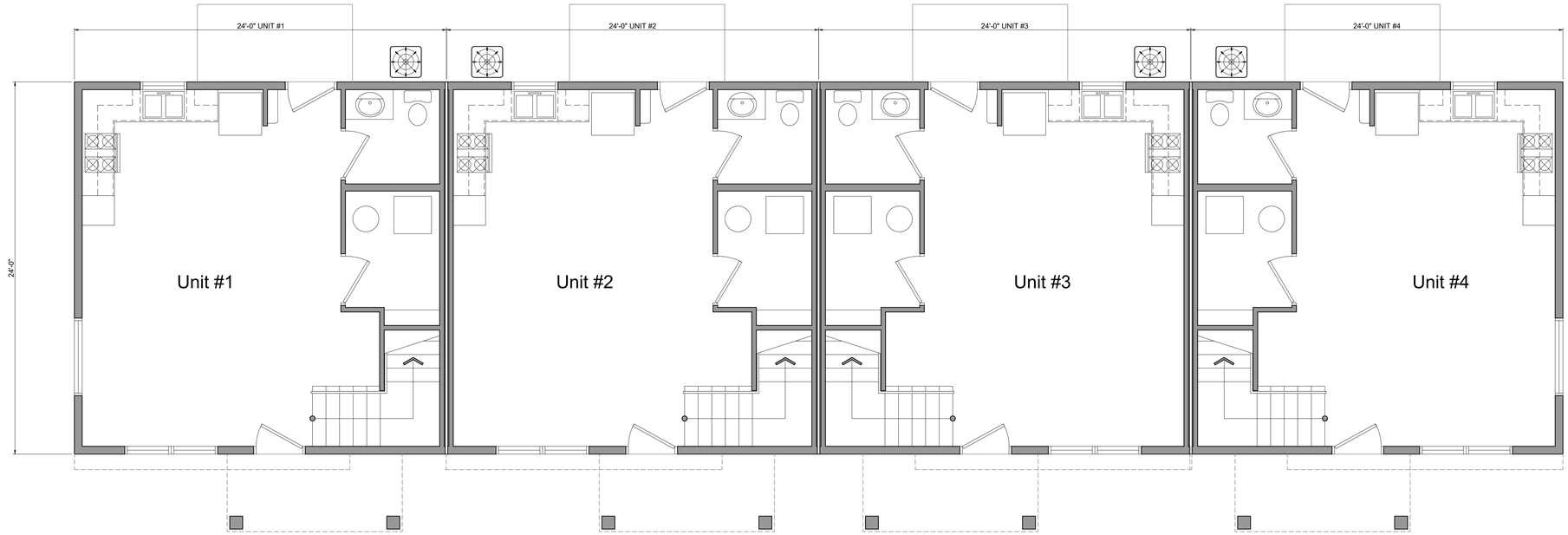
Pennsylvania Townhouses

INGHAM COUNTY LAND BANK

LANSING,MICHIGAN

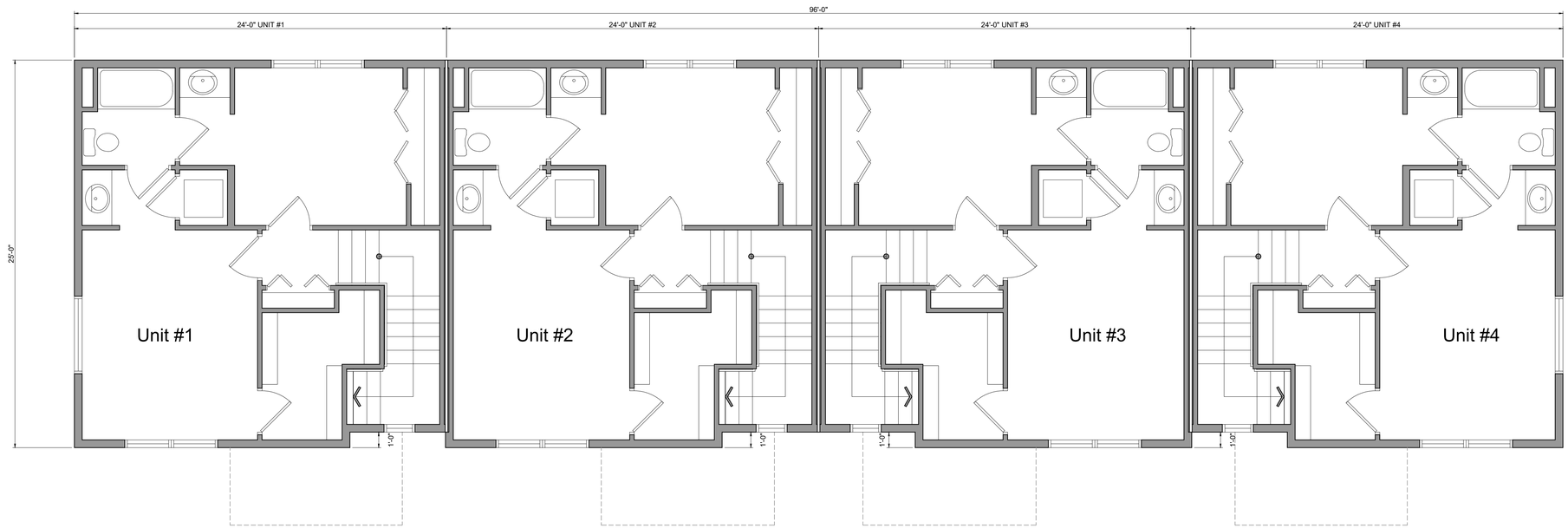
FOUNDATION PLAN

A1.1



OVERALL FIRST FLOOR PLAN

SCALE: 1/4" = 1'-0"



OVERALL SECOND FLOOR PLAN

SCALE: 1/4" = 1'-0"

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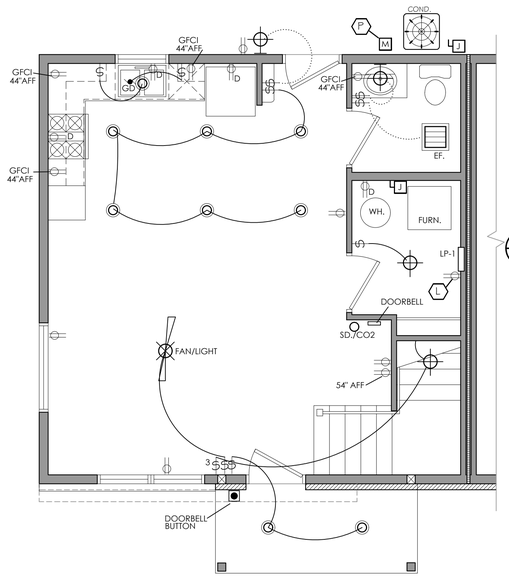
SHEET DATES / DESC.
4/15/2024

NEW CONSTRUCTION
Pennsylvania Townhouses
INGHAM COUNTY LAND BANK
LANSING,MICHIGAN

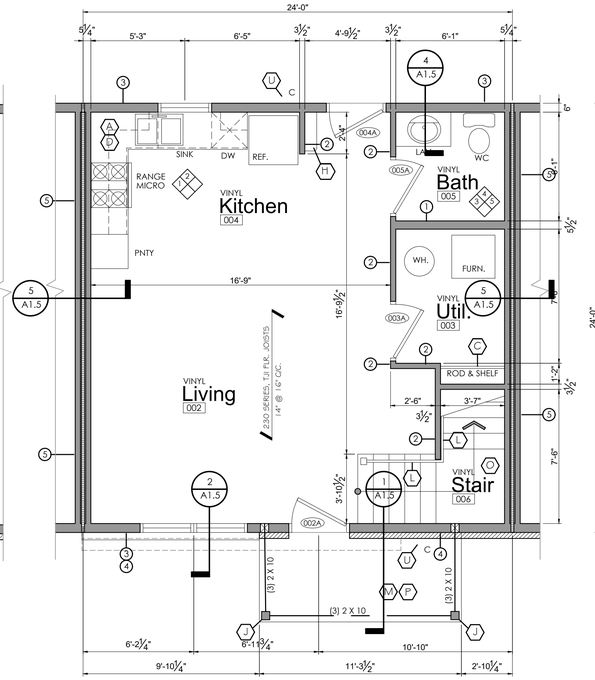
FLOOR PLAN

A1.2



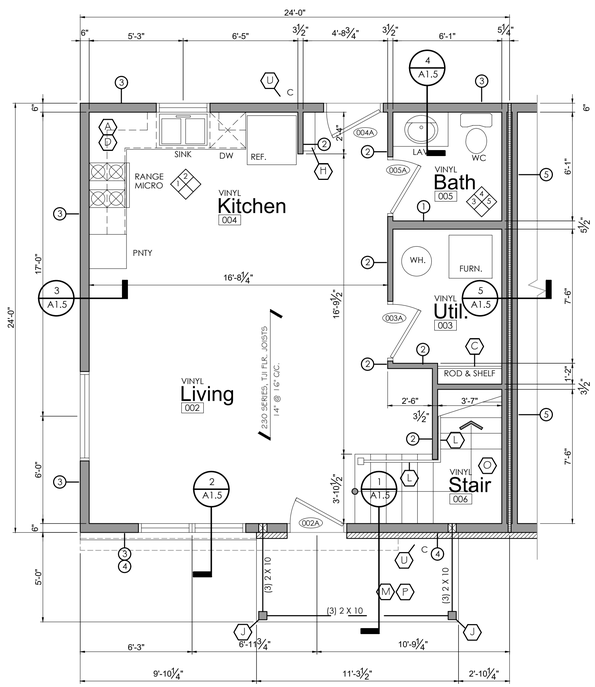
TYPICAL FIRST FLOOR ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"



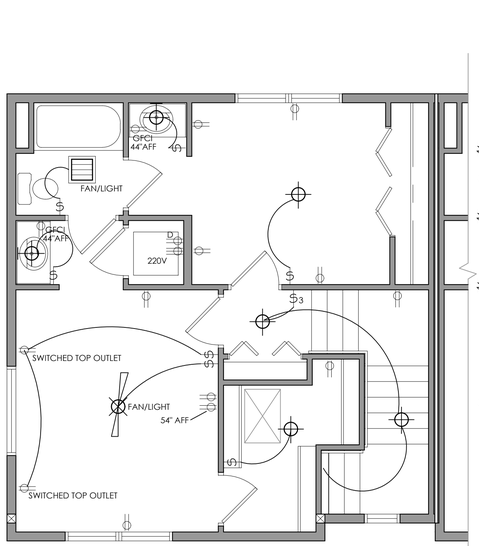
FIRST FLOOR UNIT PLAN - UNITS #2 & #3

SCALE: 1/4" = 1'-0"



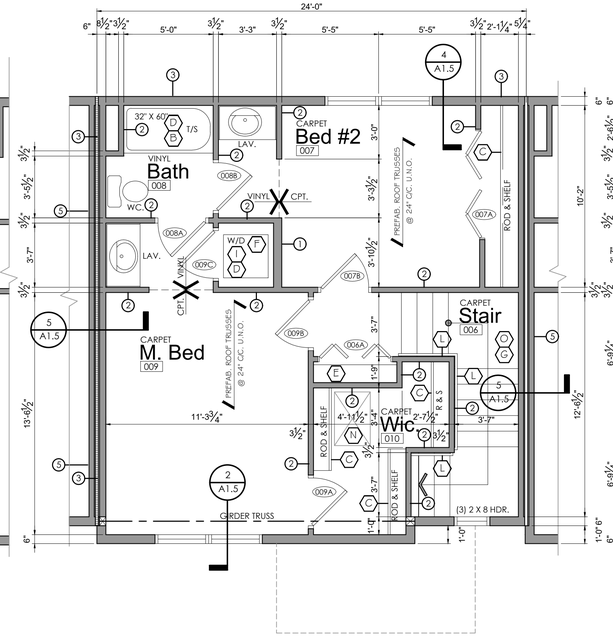
FIRST FLOOR UNIT PLAN - UNITS #1 & #4

SCALE: 1/4" = 1'-0"



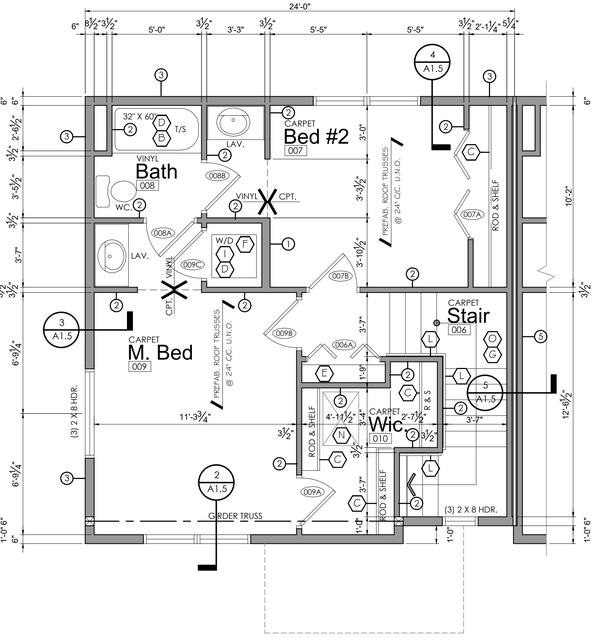
TYPICAL SECOND FLOOR UNIT PLAN

SCALE: 1/4" = 1'-0"



SECOND FLOOR UNIT PLAN - UNITS #2 & #3

SCALE: 1/4" = 1'-0"



SECOND FLOOR UNIT PLAN - UNITS #1 & #4

SCALE: 1/4" = 1'-0"

WALL TYPES

1	WALL TYPE #1 - 2 X 6 WD. STUDS @ 16" O/C. W/ 1/2" THK. GYP. BRD. AT EXPOSED FACE OF STUDS. PAINT FIN. WALLS. SOUND BATTS AT ALL INTERIOR STUD CAVITIES. 6" NON-FACED FRICTION FIT BATTS.
2	WALL TYPE #2 - 2 X 4 WD. STUDS @ 16" O/C. W/ 1/2" THK. GYP. BRD. AT EXPOSED FACE OF STUDS. PAINT FIN. WALLS. 3-1/2" NON-FACED BATTS AT ALL STUD CAVITIES
3	WALL TYPE #3 - VINYL SIDING AND TRIM O/ TYVEK WEATHER WRAP O/ 7/16" THK. O.S.B. WD. SHEATHING O/ 2 X 6 WD. STUDS @ 16" O/C. FILL STUD CAVITIES W/ 6" BATT. INSUL. W/ INTEGRAL VAPOR BARRIER. INSTALL ½" THK. GYP. BRD AT INTERIOR FACE OF WALLS.
4	WALL TYPE #4 - 4" FACE BRICK O/ AIR SPACE W/ SELF ADHERING O/ TYVEK WEATHER WRAP O/ 7/16" THK. O.S.B. WD. SHEATHING O/ 2 X 6 WD. STUDS @ 16" O/C. FILL STUD CAVITIES W/ 6" BATT. INSUL. W/ INTEGRAL VAPOR BARRIER. INSTALL ½" THK. GYP. BRD AT INTERIOR FACE OF WALLS.
5	WALL TYPE #5 - (2) LAYERS OF 1" THK. SHAFT WALL SET WITHIN PROPRIETARY METAL FRAME W/ BLOCKING AT FLOOR SYSTEM. INSTALL 2 X 4 WD. STUDS @ 16" O/C. W/ 3-1/2" NON-FACED BATT. INSULATION AT STUD CAVITIES W/ 1/2" THK. GYP BRD AT EXPOSED FACE OF STUDS, HOLD OFF WALLS 3/4" FROM FACE OF SHAFT WALL, TYP. AT BOTH SIDES OF SHAFT WALL.

BLOCK SYMBOLS

DESCRIPTION OF USE	SYMBOL
WALL TAG	X
DOOR NUMBER	XXX
ROOM NUMBER	XXX
INTERIOR ELEVATION	X
WINDOW TAG	X
NOTE TAG	X
SECTION CUTS	X / XX-X
MULTIPLE INTERIOR ELEVATION TAG	X X X X
ICE AND WATER SHIELD LOCATED ON ROOF PLAN, SUBSURFACE RIGID INSULATION AT FOUNDATION PLAN.	
RECESSED LED 'PUCK' LIGHT.	
RECESSED LED 'PUCK' LIGHT, WITH WD. BLOCKING AND WIRING FOR FUTURE LIGHT / FAN.	FL.
SURFACE MOUNTED LIGHT FIXTURE.	
WALL SCONCE LIGHT FIXTURE.	
PENDANT LIGHT FIXTURE 78" A.F.F.	
EXHAUST FAN	
SMOKE DETECTOR / CO2 SENSOR	SD/CO2
UNIT MEDIA CENTER: 2CT. FIBER HOME RUNS W/ COAXIAL SPLITTER, MEDIA CONVERTER, FIBERSYNC RECEIVER AND ETHERNET SWITCH.	UMC
OUTLET = (1) RG6 BLACK W/ WHITE SPARE + (1) CAT5E BLUE W/ SPARE (YELLOW).	

HEADER SCHEDULE

HEADERS FOR 6'-0" WIDE WINDOWS OR LESS - (3) 2 X 12, (2) JACK STUD + (1) KING STUD.

HEADERS FOR 3'-0" OR LESS WINDOW OPENINGS - (3) 2 X 8, (1) JACK STUD AND (1) KING STUD.

GENERAL NOTES

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO THE START OF CONSTRUCTION. ANY CONDITIONS FOUND TO BE CONTRARY TO WHAT IS INDICATED WITHIN THESE DOCUMENTS SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY.
2. ALL CONTRACTORS AND ANY OTHER PERSONS DOING WORK ON THIS BUILDING SHALL BE RESPONSIBLE TO BE FAMILIAR WITH THE CONTENTS OF ALL OF THE CONSTRUCTION DOCUMENTS.
3. ALL INTERIOR DIMENSIONS ARE TAKEN TO THE FACE OF THE STUD. ALL EXTERIOR DIMENSIONS ARE TAKEN TO THE FACE OF THE WALL SHEATHING U.N.O. AND ALL WINDOWS ARE TAKEN TO THE CENTERLINE OF THE WINDOW.
4. ALL ANGLES ARE 45 DEG. TO HORIZONTAL & VERTICAL DIRECTIONS U.N.O.
5. SOUND INSULATE ALL WALLS SURROUNDING LAUNDRY ROOMS, PLUMBING STACKS AND HVAC UTILITY CLOSETS. ALL WATER SUPPLY PIPING INSTALLED IN EXTERIOR WALLS SHALL BE PLACED CLOSE TO BACK SIDE OF DRYWALL AND FULLY PROTECTED FROM FREEZING.
6. ALL INTERIOR DOORS SHALL BE UNDERCUT 3/4" TO ALLOW FOR RETURN AIR FLOW.
7. INSTALL WD. BLOCKING IN ALL WALLS TO RECEIVE WALL HUNG ITEMS.
8. UTILIZE TEMPERED GLAZING AS REQUIRED TO MEET ALL LOCAL CODE COMPLIANCE ISSUES. WINDOW SUPPLIER SHALL BE RESPONSIBLE FOR PROVIDING TEMPERED WINDOW GLAZING IN THE APPROPRIATE AREAS.
9. TOWEL BARS LOCATED ABOVE TOILETS SHALL BE LOCATED AT 60" A.F.F., ALL OTHER TOWEL BARS SHALL BE LOCATED AT 48" A.F.F., TOILET PAPER DISPENSERS SHALL BE LOCATED AT 24" A.F.F. AND TOWEL RINGS LOCATED ABOVE LAVATORY COUNTERS SHALL BE SET AT 24" ABOVE COUNTER. BARRIER FREE REQUIREMENTS SUPERCEDE THESE DIMENSIONS AS DEPICTED ON THE BARRIER FREE STANDARDS SHEET.
10. VERIFY ALL TUB AND SHOWER ROUGH OPENING DIMENSIONS WITH AN ACTUAL TUB AND SHOWER UNIT.
11. ALL PRODUCTS SHALL BE INSTALLED IN COMPLIANCE WITH ALL MANUFACTURERS RECOMMENDATIONS AND SPECIFICATIONS.
12. WATER RESISTANT GYP. BRD. SHALL BE USED IN LIEU OF STANDARD GYP. BRD. AT ALL BATHROOMS AND WET AREAS.
13. INSTALL STANDARD WOOD BLOCKING OR METAL STRAPS WITHIN ALL WALLS THAT ARE TO RECEIVE WALL HUNG ITEMS AND FUTURE WALL HUNG ITEMS.
14. INTERIOR ELEVATIONS ARE FOR SCHEMATIC PURPOSES ONLY. ACTUAL DIMENSIONS AND CABINET DESIGNS SHALL BE BY THE CABINET SUPPLIER.
15. ALL PRODUCT SELECTIONS SHALL BE BY THE OWNER. VERIFY DIMENSIONS INDICATED WITH OWNER SUPPLIED PRODUCTS.
16. SEE MECHANICAL AND ELECTRICAL DRAWINGS, SUPPLIED BY OTHERS, FOR ALL OF THOSE ITEMS AND THEIR APPROXIMATE LOCATIONS.
17. ALL TUB/SHOWER UNITS TO HAVE SHOWER RODS MOUNTED AT 76-1/2" FROM FINISH FLOOR TO BOTTOM OF ROD. ALL WALK IN SHOWER UNITS TO HAVE SHOWER RODS MOUNTED AT 79" A.F.F.
18. PROVIDE ADJUSTABLE SHELVES, HINGES, DRAWER PULLS AT ALL APPLICABLE LOCATIONS.
19. ALL RANGE EXHAUST HOODS SHALL EXHAUST DIRECTLY TO THE OUTSIDE U.N.O.
20. INSTALL 'J' CHANNEL AT ALL WINDOWS.

PROJECT NOTES

- A — PREFABRICATED BASE CABINETS W/ SOLID SURFACE TOPS W/ BACK AND SIDE SPLASHES AS DIRECTED BY OWNER. INSTALL ALL APPLIANCES. SEE INTERIOR ELEVATIONS FOR MORE INFORMATION.
- B — PREFABRICATED SHOWER / TUB. INSTALL WATER RESISTANT GYP. BRD. AT ALL AREAS WITHIN BATH ROOM AREA. INSTALL WOOD BLOCKING AT ALL AREAS REQUIRED FOR GRAB BARS AND OTHER WALL HUNG ITEMS. SEE INTERIOR ELEVATIONS FOR LOCATIONS. INSTALL DUROCK SUBSTRATE AT ALL TILED WALL AREAS.
- C — VINYL COATED METAL WIRE SHELVING WITH INTEGRAL HANGER WIRE.
- D — INSTALL WOOD BLOCKING AT WALLS TO ACCOMMODATE WALL HUNG ITEMS. SEE INTERIOR ELEVATIONS FOR MORE INFORMATION.
- E — (3) 16" VINYL COATED WIRE SHELVING.
- F — 16" VINYL COATED METAL WIRE SHELVING.
- G — WOOD STAIRS WITH WOOD HANDRAIL AT ONE SIDE OF STAIR.
- H — PREMANUFACTURED KITCHEN ISLAND.
- I — INSTALL SHOWER PAN DIRECTLY BENEATH WASHER.
- J — P.T. 6 X 6 WD. COLUMN WRAPPED WITH COMPOSITE TRIM. SEE DETAIL.
- K — 18" TOWEL BAR 48" A.F.F. INSTALL WD. BLOCKING.
- L — 125 AMP. 120/208 1PH. ELEC. PANEL. TIED TO INDIVIDUAL METER.
- M — UNVENTED DECORATIVE ALUM. CEILING W/ COMPOSITE TRIM AT PERIMETER.
- N — ATTIC ACCESS PANEL WITH 5/8" THK. FIRECODE GYP. BRD. AT BOTT. SIDE.
- O — CARPETED STAIRS AND LANDING AREA AT BOTT.
- P — PREFERRED LOCATION FOR ELECTRIC METER.
- Q — MTL. GRATE O/ TOP OF WINDOW WELL W/ EMERGENCY RELEASE.
- R — PAINTED PRE-MANUFACTURED WD. HANDRAIL.
- S — NOT USED.
- T — NOT USED.
- U — WALL MOUNTED FROST FREE SPIGOT W/ COLD WATER ONLY.

NOTE:

NOT ALL NOTES LISTED ABOVE MAY BE USED.

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NEW CONSTRUCTION

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INGHAM COUNTY LAND BANK

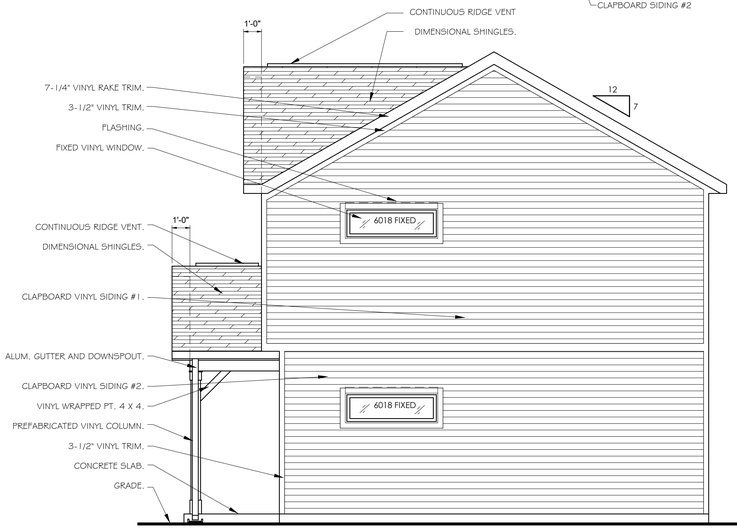
LANSING,MICHIGAN

UNIT PLANS

A1.3

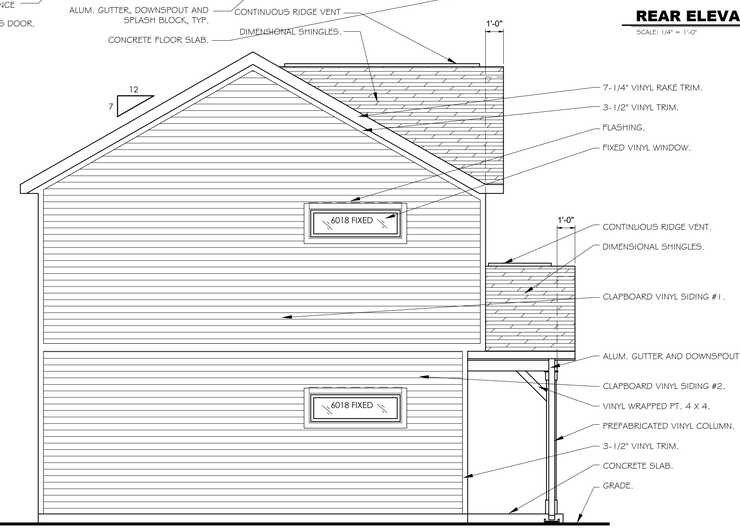
REAR ELEVATION

SCALE: 1/4" = 1'-0"



RIGHT SIDE ELEVATION

SCALE: 1/4" = 1'-0"



LEFT SIDE ELEVATION

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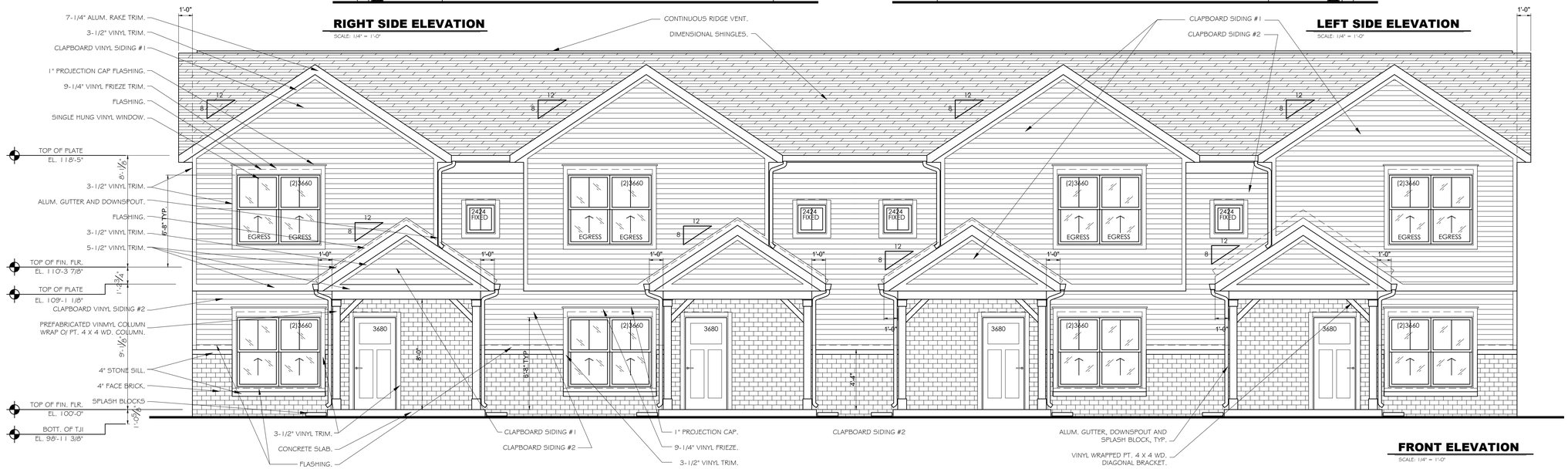

FRONT ELEVATION

SCALE: 1/4" = 1'-0"

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NEW CONSTRUCTION

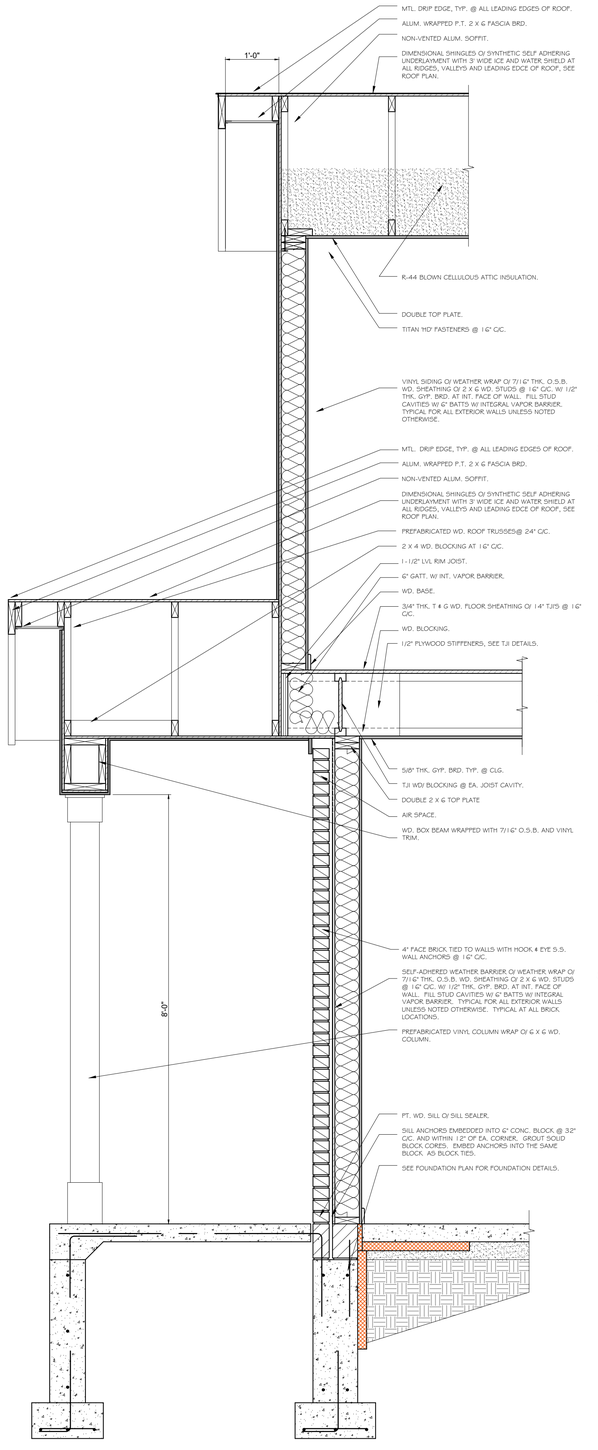
Pennsylvania Townhouses

INGHAM COUNTY LAND BANK

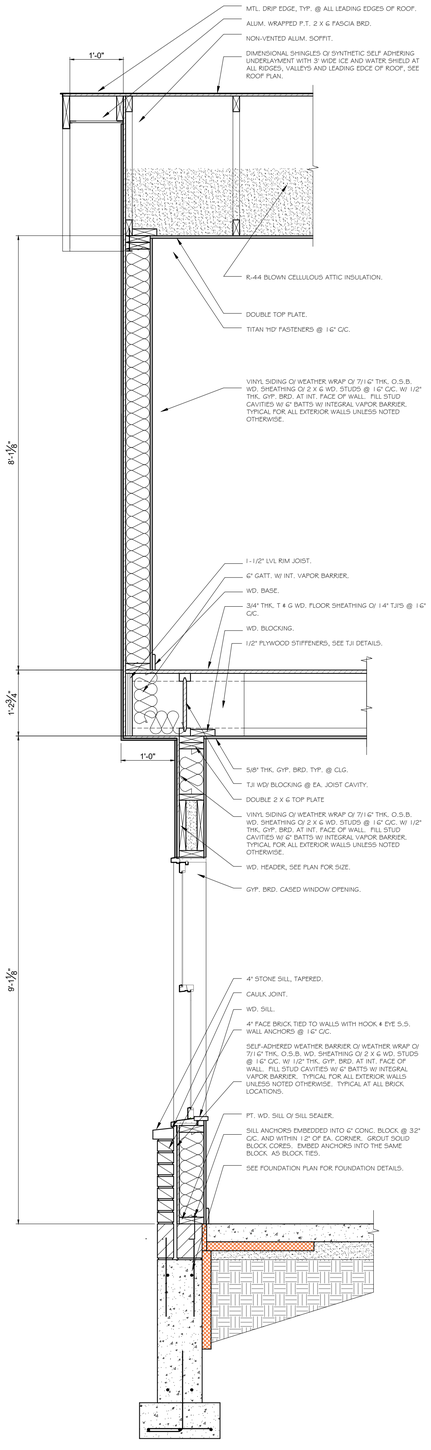
LANSING,MICHIGAN

ELEVATIONS

A1.4



1 A1.5 **FRONT PORCH WALL SECTION**
SCALE: 3/4" = 1'-0"



2 A1.5 **WALL SECTION**
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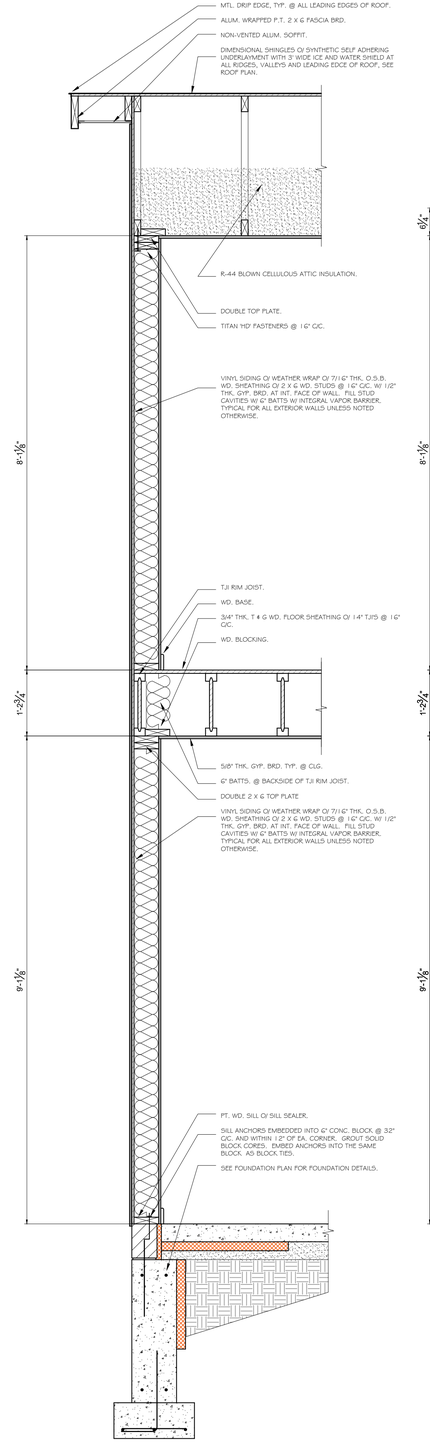

3 A1.5 **WALL SECTION**
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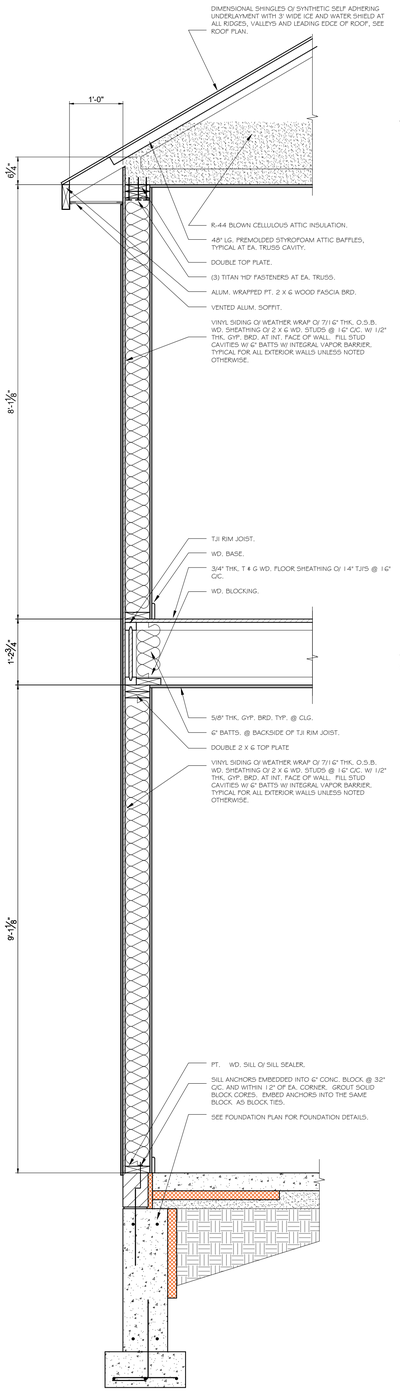
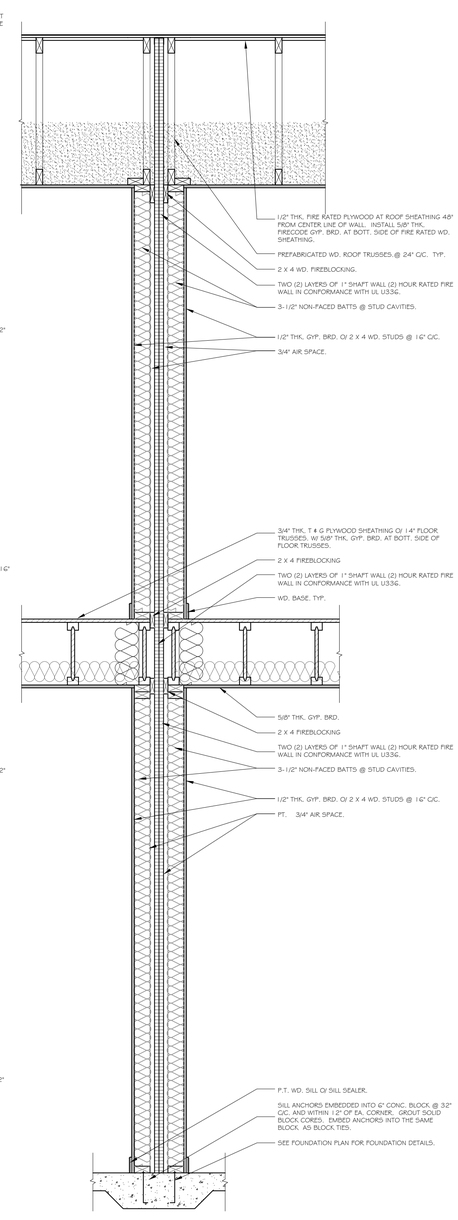


4 A1.5 **WALL SECTION**
SCALE: 3/4" = 1'-0"



5 A1.5 **AREA SEPARATION WALL SECTION**
SCALE: 3/4" = 1'-0"

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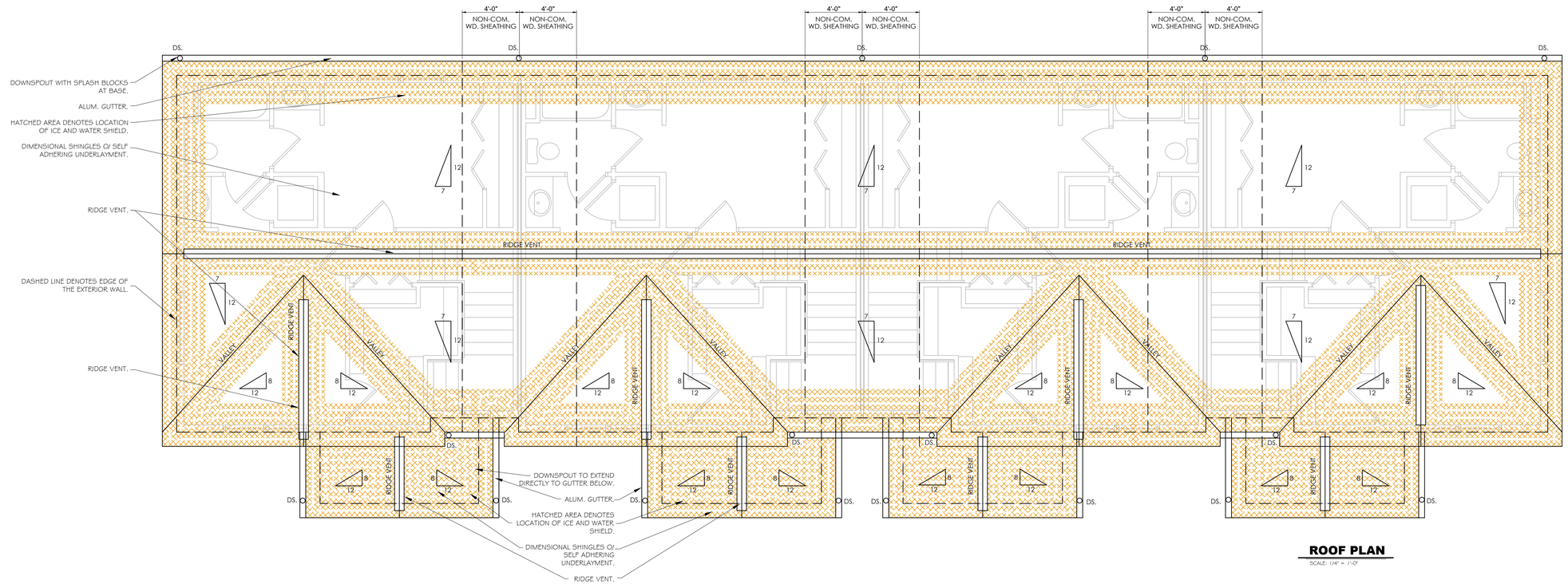
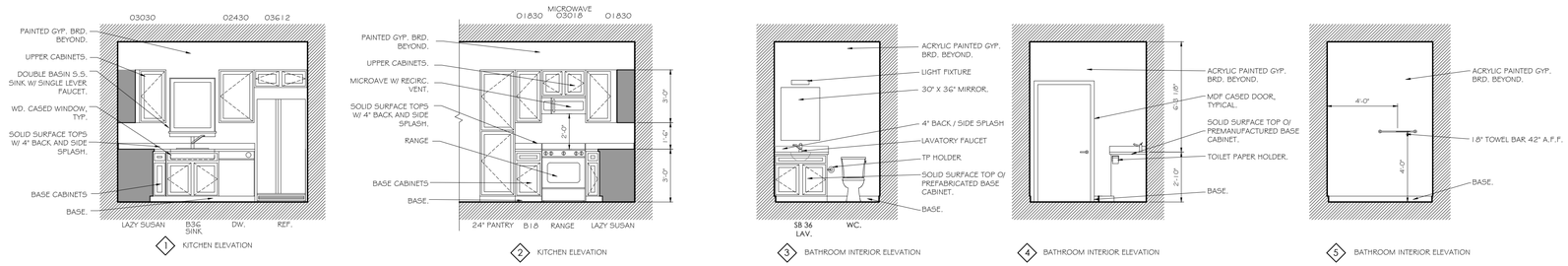
WALL SECTIONS
A1.5



ROOF PLAN

SCALE: 1/4" = 1'-0"



INTERIOR ELEVATIONS

SCALE: 1/4" = 1'-0"

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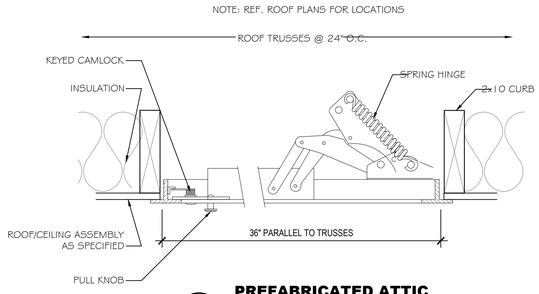
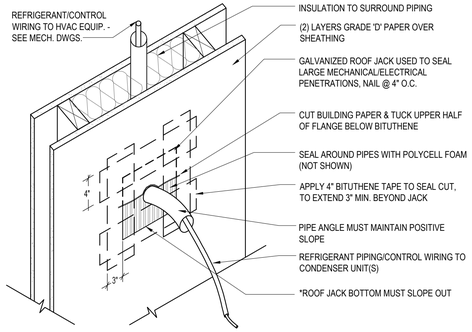
LANSING,MICHIGAN

CROSS SECTIONS

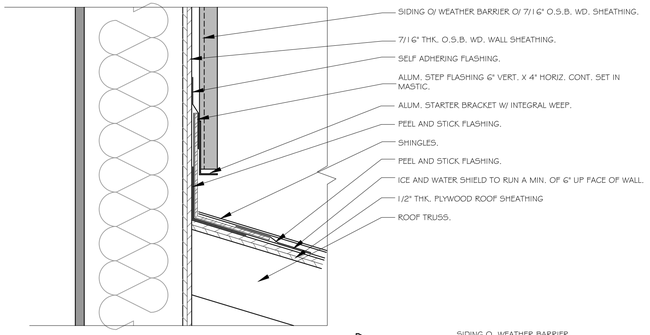
A1.6



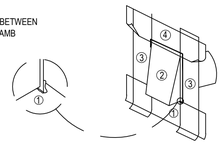
7 A1.7 **PREFABRICATED ATTIC ACCESS DETAIL**
SCALE: 1-1/2" = 1'-0"

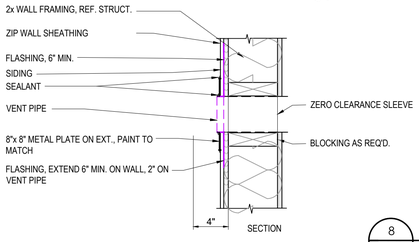


5 A1.7 **CONDENSER LINE EXTERIOR WALL PENETRATION DETAIL**
SCALE: 1-1/2" = 1'-0"



NOTE
APPLY CONTINUOUS SEALANT BETWEEN NAILING FLANGE AT SILL AND JAMB FLASHING





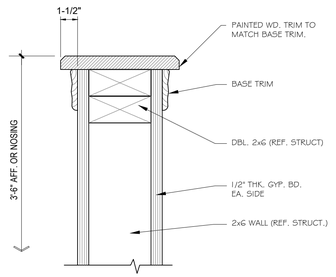
1- SILL FLASHING
9-INCH MINIMUM WIDE SELF-ADHERED SELF-HEALING RUBBERIZED ELASTOMERIC ASPHALT FLASHING MEMBRANE INSTALLED A MINIMUM 9-INCHES BEYOND ROUGH OPENING
- DO NOT OVERLAP THE TOP OF SILL FRAMING
- ADHERE ONLY AT TOP EDGE. LEAVE UNATTACHED AT BOTTOM SO THAT THE PAPER CAN BE INSTALLED UNDERNEATH

2- METAL EXTERIOR VENT
26- GAUGE MINIMUM GALVANIZED SHEET METAL VENT MUST BE INSTALLED OVER SILL FLASHING. INSTALL JAMB FLASHING OVER OR UNDER NAILING FLANGE. SET VENT IN A CONTINUOUS BED OF SEALANT.

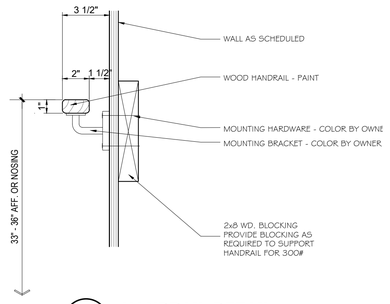
3- JAMB FLASHING
9-INCH MINIMUM WIDE SELF-ADHERED SELF-HEALING RUBBERIZED ELASTOMERIC ASPHALT FLASHING MEMBRANE. FLASHING INSTALLED OVER AND BELOW SILL FLASHING AND ABOVE TOP OF FUTRURE HEAD FLASHING.
- DO NOT FASTEN THE BOTTOM 9-INCHES OF THE JAMB FLASHING SO THE WEATHER-RESISTANT BARRIER APPLIED LATER MAY BE SLIPPED UDERNEATH THE FLASHING IN A WEATHERBOARD FASHION.

4- HEAD FLASHING
APPLY SELF- ADHERED SELF-HEALING RUBBERIZED ELASTOMERIC ASPHALT FLASHING MEMBRANE OVER DRYER VENT FLANGE. EXTEND HEAD FLASHING BEYOND EACH JAMB FLASHING

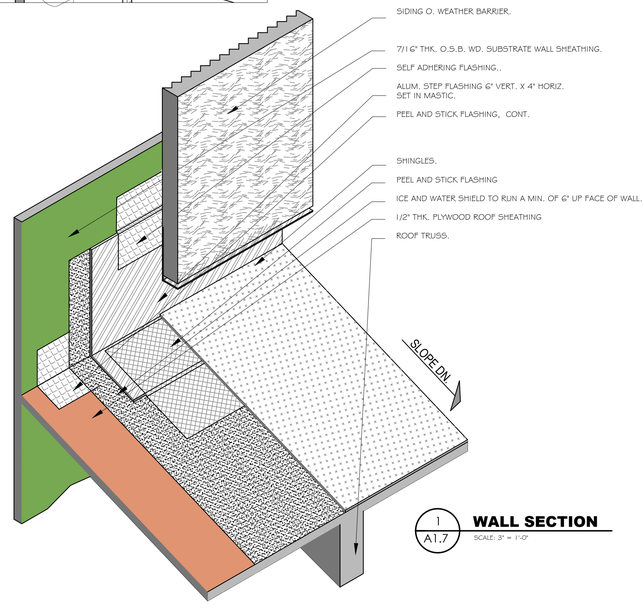
8 A1.7 **DRYER VENT EXTERIOR WALL PENETRATION DETAIL**
SCALE: 1-1/2" = 1'-0"



6 A1.7 **PARAPET DETAIL**
SCALE: 1-1/2" = 1'-0"



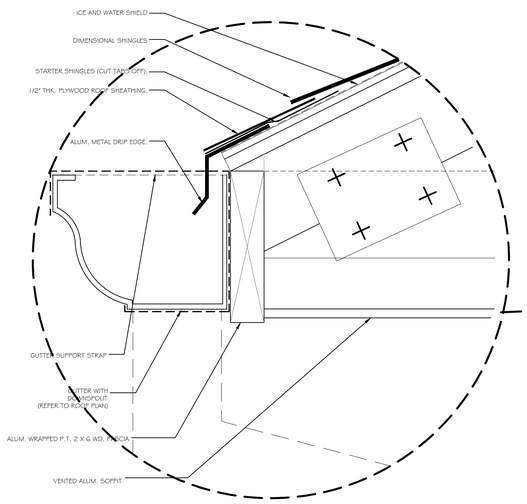
4 A1.7 **HANDRAIL DETAIL**
SCALE: 1-1/2" = 1'-0"

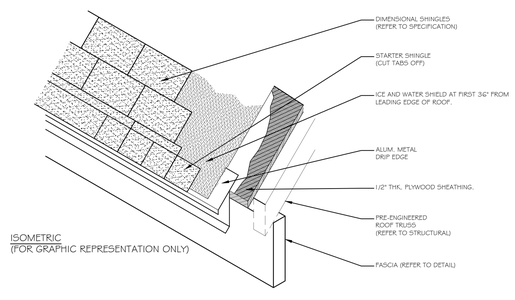


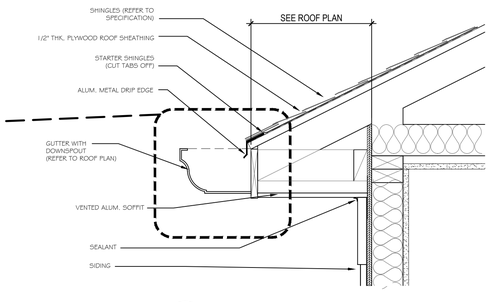
1 A1.7 **WALL SECTION**
SCALE: 3/4" = 1'-0"

REF. TO ROOF PLANS FOR GUTTER LOCATIONS

GUTTER/D.S. SUPPLIER TO VERIFY SIZE REQUIREMENTS







3 A1.7 **WALL SECTION**
SCALE: 1-1/2" = 1'-0"

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SHEET DATES / DESC.
4/15/2024

NEW CONSTRUCTION

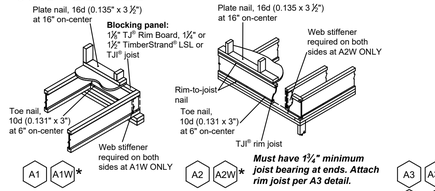
Pennsylvania Townhouses

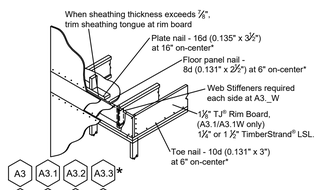
INGHAM COUNTY LAND BANK

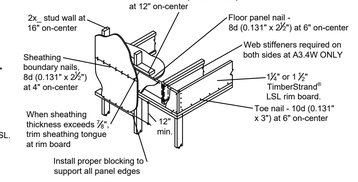
LANSING,MICHIGAN

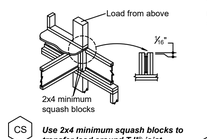
DETAILS

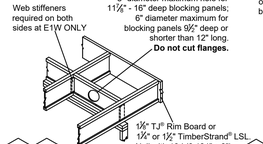
A1.7

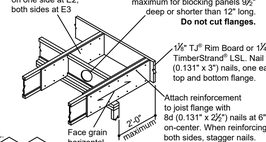


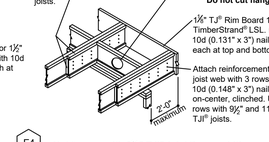


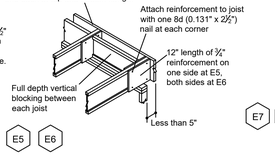


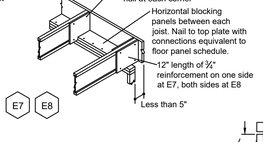


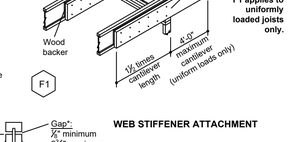


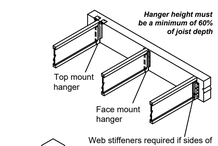


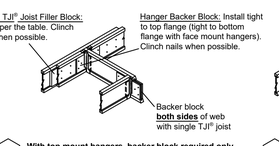


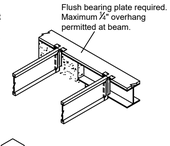


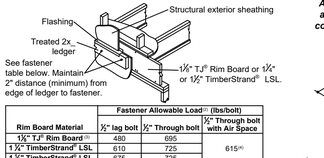


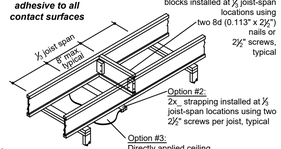


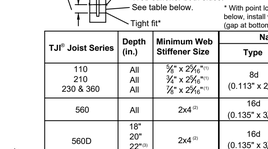


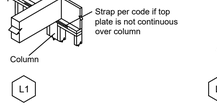


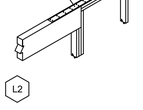


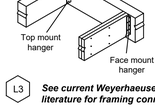


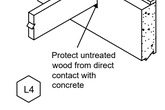


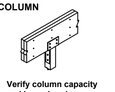


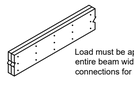


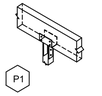


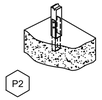


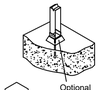


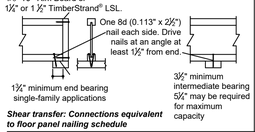


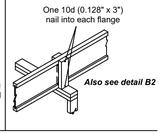


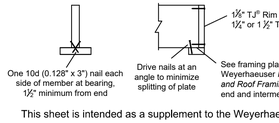


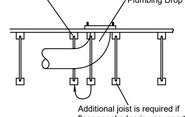


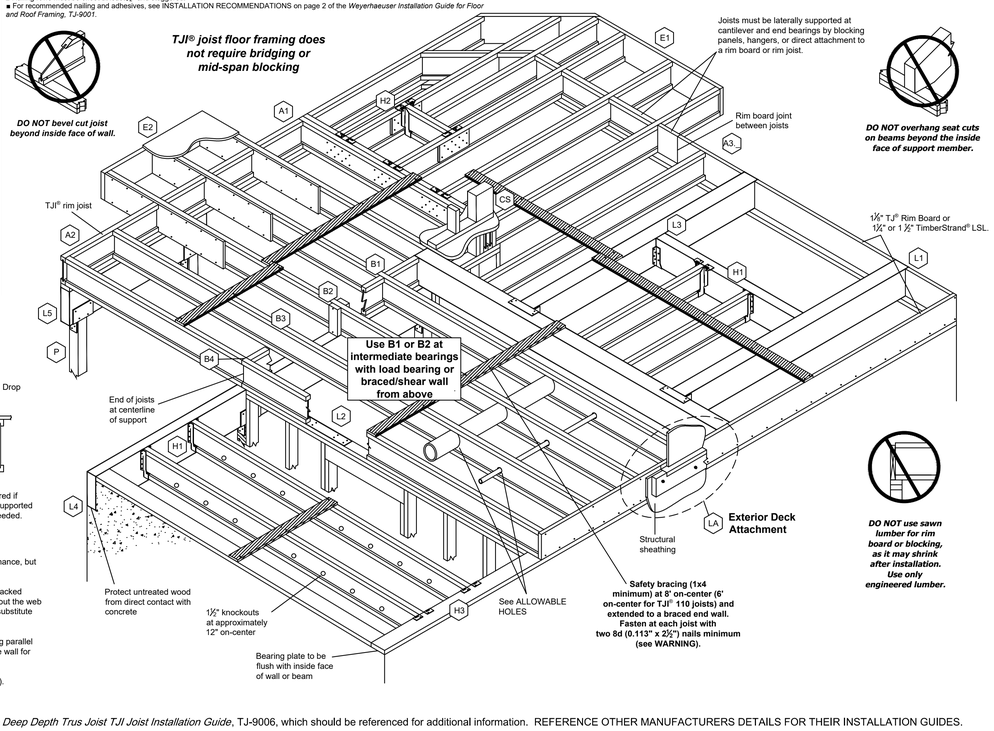


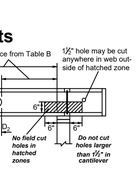












THINK SAFETY, READ INSTALLATION INFORMATION BEFORE PROCEEDING

JOIST DETAILS

Must have 1¾" minimum joist bearing at ends. Attach rim joist per A3 detail.

* For additional installation specifications see Rim Board Details and Installation in *Weyerhaeuser Installation Guide for Floor and Roof Framing,* TJ-9001.

* For additional installation specifications see Rim Board Details and Installation in *Weyerhaeuser Installation Guide for Floor and Roof Framing,* TJ-9001.

Blocking panels may be required with braced/shear walls above or below — see detail B1

Blocking panels may be required with braced/shear walls above or below — see detail B1

Use 2x4 minimum squash blocks to transfer load around TJI® joist

Not for use with 3½" TJI® joist flange widths

F1 applies to uniformly loaded joists only.

WEB STIFFENER ATTACHMENT

* With point load from above, and no support below, install web stiffener tight to top flange (gap at bottom flange)

TJI® Joist Series	Depth (in.)	Minimum Web Stiffener Size	Nailing Requirements		
			Type	Number Nails	
				End	Intermediate
110 210 230 & 360	All All All	⅝" x 2⁵⁄₁₆"(1) ¾" x 2⁵⁄₁₆"(1) ⅞" x 2⁵⁄₁₆"(1)	8d (0.113" x 2½")	3	3
560	All	2x4 (2)	16d (0.135" x 3½")		
560D	18" 20" 22"(3) 24"(3)	2x4 (2)	16d (0.135" x 3½")	4 5 6 6	4 5 11 13

(1) PS1 or PS2 sheathing, face grain vertical
(2) Construction grade or better
(3) Web stiffeners are always required for 22" and 24" TJI® 560D Joists

W

EXTERIOR DECK ATTACHMENT

Rim Board Material	Fastener Allowable Load(2) (lbs/bolt)		
	½" lag bolt	½" Through bolt	½" Through bolt with Air Space
1⅛" TJ® Rim Board (3)	480	695	615(4)
1 ¼" TimberStrand® LSL	610	725	
1 ½" TimberStrand® LSL	675	725	

(1) Corrosion-resistant fasteners required for wet-service applications.
(2) Allowable load determined in accordance with ASTM D7672.
(3) 1⅛" TJ® Rim Board is allowed with joist depths ≤16" only.
(4) Maximum ½" shimmed air space.

LA

Apply subfloor adhesive to all contact surfaces

When specified on the layout, one of the bracing options above is required

With top mount hangers, backer block required only for downward loads exceeding 250 lbs or for uplift conditions. For nailing requirements see page 5, TJ - 9001, *Weyerhaeuser installation Guide for Floor and Roof Framing, TJ-9001.*

BEAM DETAILS

BEARING AT WALL

BEARING FOR DOOR OR WINDOW HEADER

BEAM TO BEAM CONNECTION

See current Weyerhaeuser literature for framing connectors

BEARING AT CONCRETE WALL

FASTENING of FLOOR PANELS

Guidelines for Closest On-Center Spacing per Row

Nail Size	TJI®(1)(2)		Rim Board			1¾" TimberStrand® LSL or wider	Microllam® LVL	Parallam® PSL
	110, 210, and 230	360 and 560	1⅛" TJ® Rim Board	TimberStrand® LSL 1¼"	TimberStrand® LSL 1½"			
8d (0.113" x 2½"), 8d (0.131" x 2½")	4"	3"	6"	4"	3"	3"	4"	4"
10d (0.148"x 3"), 12d (0.148"x 3¼")	4"(3)	4"(3)	6"	4"	3"	3"	5"	4"
16d (0.162"x 3½")	6"	6"	16"(4)	6"(5)	6"(5)	6"(6)	8"(4)	6"

(1) Stagger nails when using 4" on-center spacing and maintain ⅜" joist and panel edge distance. One row of fasteners is permitted (two at abutting panel edges) for diaphragms. Fastener spacing for TJI® joists in diaphragm applications cannot be less than shown in table. When fastener spacing for blocking is less than spacing shown above, rectangular blocking must be used in lieu of TJI® joists.
(2) For non-diaphragm applications, multiple rows of fasteners are permitted if the rows are offset at least ½" and staggered.
(3) With 10d (0.148" x 1½") nails, spacing can be reduced to 3" on-center for light gauge steel straps.
(4) Can be reduced to 5" on-center if nail penetration into the narrow edge is no more than 1¼" (to minimize splitting).
(5) Can be reduced to 4" on-center if nail penetration into the narrow edge is no more than 1¼" (to minimize splitting).
(6) Can be reduced to 3½" on-center if nail penetration into the narrow edge is no more than 1¼" (to minimize splitting).

- ■ Recommended nailing is 12" on-center in field and 6" on-center along panel edge. Fastening requirements on engineered drawings supersede recommendations listed above.
- ■ Maximum nail spacing for TJI® joists is 18" on-center.
- ■ 14 ga. staples may be substituted for 8d (0.113" x 2½") nails if minimum penetration of 1" into the TJI® joist or rim board is achieved.
- ■ To minimize splitting, maintain edge distance and row spacing of 2½ x nail diameter or ⅜", whichever is greater.
- ■ Nailing rows must be offset at least ½" and staggered.
- ■ For recommended nailing and adhesives, see INSTALLATION RECOMMENDATIONS on page 2 of the *Weyerhaeuser Installation Guide for Floor and Roof Framing, TJ-9001.*

FILLER and BACKER BLOCK SIZES

TJI® Joists		110		210		230 or 360		360	560			560D
Depth		9½"-11⅞"	14"-16"	9½"-11⅞"	14"-16"	9½"-11⅞"	14"-16"	18"-20"	11⅞"	14"-16"	18"-20"	22"-24"
Filler Block (1) (Detail H2)		2x6	2x8	2x6 + ⅜" sheathing	2x8 + ⅜" sheathing	2x6 + ½" sheathing	2x8 + ½" sheathing	2x12 + ½" sheathing	Two 2x6	Two 2x8	Two 2x12	Four ¾" x 15" sheathing
Cantilever Filler (Detail E4)		2x6 4'-0" long	2x10 6'-0" long	2x6 + ⅜" sheathing 4'-0" long	2x10 + ⅜" sheathing 6'-0" long	2x6 + ½" sheathing 4'-0" long	2x10 + ½" sheathing 6'-0" long	Not applicable	Not applicable			
Backer Block (1) (Detail F1 or H2)		⅝" or ¾"		¾" or ⅞"		⅞" or 1" Net			2x6	2x8	2x12	Two ¾" x 15" sheathing
Nail Size	Filler	10d (0.128" x 3")							16d (0.135" x 3 ½")			
	Backer								10d (0.128" x 3")			
Nail Quantity(2)	Filler	10 (15 for multi-family applications)						15 one side	10 (15 for mulit-family) each side		15 each side	25 each side
	Backer							15	10 (15 for mulit-family)		15	15

(1) If necessary, increase filler and backer block height for face mount hangers and maintain ⅛" gap at top of joist; see detail W. Filler and backer block dimensions should accomodate required nailing without splitting (12" minimum for backer blocks and 24" minimum for filler blocks).
(2) Clinch nails when possible.

Multiple-Member Connections for Top-Loaded Beams

Fastener Installation Requirements

Piece Width	# of Plies	Fastener				
		Type(1)	Min. Length	# Rows	O.C. Spacing	Location
1¾"	2	10d nails	3"	3(2)	12"	One side
		12d-16d nails	3 ¼"	2(2)		
		Screws	3⅜" or 3½"	2	24"	
	3	10d nails	3"	3(2)	12"	Both sides
		12d-16d nails	3 ¼"	2(2)		
		Screws	3⅜" or 3½"	2	24"	Both sides
			5"			One side
	4	10d nails(3)	3"	3(2)	12"	One side (per ply)
		12d-16d nails(3)	3 ¼"	2(2)		
		Screws	5" or 6"	2	24"	Both sides
			6 ¾"			One side
3½"	2	Screws	5" or 6"	2	24"	Both sides
			6 ¾"			One side
		½" bolts	8"	2	24"	-

(1) 10d nails are 0.128" diameter; 12d-16d nails are 0.148" - 0.162" diameter; screws are SDS, SDW, USP WS, or TrussLOK®
(2) An additional row of nails is required with depths of 14" or greater.
(3) When connecting 4-ply members, nail each ply to the other and offset nail rows by 2" from the rows in the ply below.

When fasteners are required on both sides, stagger fasteners on the second side so they fall halfway between fasteners on the first side.

Load must be applied evenly across entire beam width. Otherwise, use connections for side-loaded beams.

L6

Multiple pieces can be nailed or bolted together to form a header or beam of the required size, up to a maximum width of 7"

BEARING AT COLUMN

L5

Verify column capacity and beam bearing length. See current Weyerhaeuser literature.

COLUMN DETAILS

BEAM ON COLUMN CAP

P1

COLUMN BASE

P2

ELEVATED COLUMN BASE

P3

NAILING AT BEARING (FLOOR)

TJI® Joist to Bearing Plate

Shear transfer: Connections equivalent to floor panel nailing schedule

Squash Blocks to TJI® Joist
(Load bearing wall above)

Rim to TJI® Joist

1⅛" TJ® Rim Board, 1¼" or 1½" TimberStrand® LSL. **or TJI® 110 rim joist:** One 10d (0.131" x 3") nail into each flange

TJI® 210, 230, and 360 rim joist: One 16d (0.135" x 3½") nail into each flange. With depths > 16", use TJI® 360 rim joist.

TJI® 560 rim joist: Toe nail with 10d (0.128" x 3") nails, one each side of TJI® joist flange

Locate rim board joint between joists.

BEAM ATTACHMENT at BEARING

See framing plan (if applicable) or Weyerhaeuser *Installation Guide for Floor and Roof Framing, TJ-9000.* For minimum end and intermediate bearing lengths.

Joist may be shifted up to 3" if floor panel edge is supported and span rating is not exceeded. **Do not cut joist flanges.**

Additional joist is required if floor panel edge is unsupported or if span rating is exceeded.

INSTALLATION TIPS

- Subfloor adhesive will improve floor performance, but may not be required.
- Squash blocks and blocking panels carry stacked vertical loads (details B1 and B2). Packing out the web of a TJI® joist (with web stiffeners) is not a substitute for squash blocks or blocking panels.
- When joists are doubled at non-load bearing parallel partitions, space joists apart the width of the wall for plumbing or HVAC.
- Additional joist at plumbing drop (see detail).

TJI® joist floor framing does not require bridging or mid-span blocking

DO NOT bevel cut joist beyond inside face of wall.

DO NOT overhang seat cuts on beams beyond the inside face of support member.

DO NOT use sawn lumber for rim board or blocking, as it may shrink after installation. Use only engineered lumber.

This sheet is intended as a supplement to the Weyerhaeuser *Installation Guide for Floor and Roof Framing,* TJ-9001, and the *Deep Depth Trus Joist TJI Joist Installation Guide*, TJ-9006, which should be referenced for additional information. REFERENCE OTHER MANUFACTURERS DETAILS FOR THEIR INSTALLATION GUIDES.

ALLOWABLE HOLES - TJI® Joists

Table A - End Support

Minimum distance from edge of hole to inside face of nearest end support

JOIST DEPTH	TJI®	ROUND HOLE SIZE									SQUARE OR RECTANGULAR HOLE SIZE								
		2"	3"	4"	5"	6½"	7"	8⅞"	11"	13"	2"	3"	4"	5"	6½"	7"	8⅞"	11"	13"
9½"	110	1'-0"	1'-6"	2'-0"	3'-0"	5'-0"					1'-0"	1'-6"	2'-6"	3'-6"	4'-6"				
	210	1'-0"	1'-6"	2'-6"	3'-0"	5'-6"					1'-0"	2'-0"	2'-6"	4'-0"	5'-0"				
	230	1'-6"	2'-0"	2'-6"	3'-6"	5'-6"					1'-0"	2'-0"	3'-0"	4'-6"	5'-0"				
	360	1'-6"	2'-0"	3'-0"	4'-0"	6'-0"					1'-6"	2'-6"	3'-6"	5'-0"	5'-6"				
	560	1'-6"	2'-6"	3'-6"	5'-0"	7'-0"					2'-0"	3'-0"	4'-0"	5'-6"	6'-0"				
11⅞"	110	1'-0"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	5'-6"			1'-0"	1'-6"	2'-0"	2'-6"	4'-6"	5'-0"	6'-0"		
	210	1'-0"	1'-6"	2'-0"	2'-0"	3'-0"	3'-6"	6'-0"			1'-0"	1'-6"	2'-6"	3'-0"	5'-0"	5'-6"	6'-6"		
	230	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	6'-6"			1'-0"	2'-0"	2'-6"	3'-6"	5'-6"	5'-6"	7'-0"		
	360	1'-6"	2'-0"	3'-0"	3'-6"	4'-6"	5'-0"	7'-0"			1'-6"	2'-6"	3'-6"	4'-6"	6'-6"	6'-6"	7'-6"		
	560	1'-6"	2'-6"	3'-0"	4'-0"	5'-6"	6'-0"	8'-0"			2'-6"	3'-6"	4'-6"	5'-6"	7'-0"	7'-6"	8'-0"		
14"	110	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	3'-0"	5'-6"		1'-0"	1'-0"	1'-6"	2'-0"	3'-6"	4'-0"	6'-0"	8'-0"	
	210	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	2'-6"	3'-6"	6'-0"		1'-0"	1'-0"	2'-0"	2'-6"	4'-0"	4'-6"	6'-6"	8'-6"	
	230	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	2'-6"	4'-0"	7'-0"		1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	7'-0"	9'-0"	
	360	1'-0"	1'-0"	1'-6"	2'-6"	3'-6"	4'-0"	5'-6"	8'-0"		1'-0"	1'-6"	2'-6"	4'-0"	6'-0"	6'-6"	8'-0"	9'-6"	
	560	1'-0"	1'-0"	2'-0"	3'-0"	4'-6"	5'-0"	6'-6"	9'-0"		1'-6"	3'-0"	4'-0"	5'-0"	7'-0"	7'-6"	9'-0"	10'-0"	
16"	110	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	3'-0"	5'-0"	1'-0"	1'-0"	1'-0"	1'-6"	3'-0"	3'-0"	5'-6"	7'-6"	10'-0"
	210	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	3'-6"	6'-0"	1'-0"	1'-0"	1'-0"	2'-0"	3'-0"	3'-6"	6'-6"	8'-0"	11'-0"
	230	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	1'-6"	3'-0"	4'-0"	7'-0"	1'-0"	1'-0"	1'-0"	2'-0"	3'-6"	4'-0"	7'-0"	9'-0"	11'-0"
	360	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	2'-6"	4'-6"	6'-6"	9'-0"	1'-0"	1'-0"	1'-6"	3'-0"	5'-0"	5'-6"	9'-0"	10'-0"	11'-6"
	560	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-0"	5'-0"	7'-6"	10'-0"	1'-0"	2'-0"	3'-0"	4'-6"	6'-6"	7'-0"	10'-0"	11'-0"	12'-0"
		4"	6"	7"	8"	10"	12"	14¾"	16¾"		4"	6"	7"	8"	10"	12"	14¾"	16¾"	
18"	360	1'-0"	1'-0"	1'-0"	2'-0"	4'-0"	5'-6"	9'-6"			1'-0"	3'-0"	4'-6"	6'-0"	10'-0"	11'-0"	13'-6"		
	560	1'-0"	1'-0"	1'-0"	2'-0"	4'-6"	7'-0"	10'-6"			2'-0"	5'-0"	6'-6"	8'-0"	11'-0"	12'-0"	14'-0"		
20"	360	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	4'-0"	7'-0"	10'-0"		1'-0"	1'-6"	3'-0"	4'-6"	8'-0"	11'-6"	13'-6"	15'-6"	
	560	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	4'-6"	8'-6"	11'-0"		1'-0"	3'-6"	5'-0"	7'-0"	10'-6"	13'-0'	14'-6"	15'-6"	

Table B - Intermediate or Cantilever Support

Minimum distance from edge of hole to inside face of nearest intermediate or cantilever support

JOIST DEPTH	TJI®	ROUND HOLE SIZE									SQUARE OR RECTANGULAR HOLE SIZE								
		2"	3"	4"	5"	6½"	7"	8⅞"	11"	13"	2"	3"	4"	5"	6½"	7"	8⅞"	11"	13"
9½"	110	2'-0"	2'-6"	3'-6"	4'-6"	7'-6"					1'-6"	2'-6"	3'-6"	5'-6"	6'-6"				
	210	2'-0"	2'-6"	3'-6"	5'-0"	8'-0"					2'-0"	3'-0"	4'-0"	6'-6"	7'-6"				
	230	2'-6"	3'-0"	4'-0"	5'-6"	8'-6"					2'-0"	3'-6"	4'-6"	6'-6"	7'-6"				
	360	3'-0"	4'-0"	5'-6"	6'-6"	9'-0"					3'-0"	4'-6"	5'-6"	7'-6"	8'-0"				
	560	3'-6"	5'-0"	6'-0"	7'-6"	10'-0"					4'-0"	5'-6"	6'-6"	8'-0"	9'-0"				
11⅞"	110	1'-0"	1'-0"	1'-6"	2'-6"	4'-0"	4'-6"	8'-6"			1'-0"	1'-6"	2'-6"	4'-0"	7'-0"	7'-0"	9'-6"		
	210	1'-0"	1'-0"	2'-0"	3'-0"	4'-6"	5'-0"	9'-0"			1'-0"	2'-0"	3'-0"	4'-6"	8'-0"	8'-0"	10'-0"		
	230	1'-0"	2'-0"	2'-6"	3'-6"	5'-0"	5'-6"	10'-0"			1'-0"	2'-6"	3'-6"	5'-0"	8'-6"	9'-0"	10'-6"		
	360	2'-0"	3'-0"	4'-0"	5'-6"	7'-0"	7'-6"	11'-0"			2'-0"	3'-6"	5'-0"	7'-0"	9'-6"	9'-6"	11'-0"		
	560	1'-6"	3'-0"	4'-6"	5'-6"	8'-0"	8'-6"	12'-0"			3'-0"	4'-6"	6'-0"	8'-0"	10'-6"	11'-0"	12'-0"		
14"	110	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	2'-6"	4'-6"	8'-6"		1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	6'-0"	9'-0"	12'-0"	
	210	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-0"	5'-6"	9'-6"		1'-0"	1'-0"	2'-0"	3'-6"	6'-0"	7'-0"	10'-0"	13'-0"	
	230	1'-0"	1'-0"	1'-0"	2'-0"	3'-6"	4'-0"	6'-0"	10'-6"		1'-0"	1'-0"	2'-6"	4'-0"	6'-6"	7'-6"	11'-0"	13'-6"	
	360	1'-0"	1'-0"	2'-0"	3'-6"	5'-6"	6'-0"	8'-6"	12'-6"		1'-0"	2'-0"	4'-0"	5'-6"	9'-0"	10'-0"	12'-0"	14'-0"	
	560	1'-0"	1'-0"	1'-6"	3'-6"	5'-6"	6'-6"	9'-6"	13'-6"		1'-0"	3'-0"	5'-0"	7'-0"	10'-0"	11'-0"	13'-6"	15'-0"	
16"	110	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	8'-6"	1'-0"	1'-0"	1'-0"	1'-0"	3'-6"	4-6"	8'-6"	11'-6"	15'-0"
	210	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	3'-6"	6'-0"	10'-0"	1'-0"	1'-0"	1'-0"	1'-6"	4'-6"	5'-6"	10'-0"	12'-6"	16'-0"
	230	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	4'-0"	6'-6"	11'-0"	1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	6'-0"	10'-6"	13'-6"	16'-6"
	360	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	4'-0"	6'-6"	10'-0"	13'-6"	1'-0"	1'-0"	2'-0"	4'-0"	7'-6"	8'-6"	13'-0"	14'-6"	17'-0"
	560	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-6"	7'-0"	11'-0"	15'-0"	1'-0"	1'-0"	3'-6"	5'-6"	9'-0"	10'-0"	14'-6"	16'-0"	18'-0"
		4"	6"	7"	8"	10"	12"	14¾"	16¾"		4"	6"	7"	8"	10"	12"	14¾"	16¾"	
18"	360	1'-0"	1'-0"	1'-6"	3'-0"	6'-0"	9'-0"	14'-6"			1'-0"	4'-0"	6'-6"	9'-0"	14'-6"	16'-6"	19'-0"		
	560	1'-0"	1'-0"	1'-0"	2'-0"	6'-0"	10'-0"	15'-6"			1'-0"	6'-0"	8'-6"	11'-6"	16'-6"	18'-0"	19'-6"		
20"	360	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	6'-0"	11'-0"	15'-0"		1'-0"	1'-6"	4'-0"	7'-0"	12'-6"	16'-6"	19'-0"	20'-6"	
	560	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	5'-6"	11'-6"	15'-6"		1'-0"	3'-0"	6'-0"	8'-6"	14'-0"	17'-6'	19'-0"	20'-6"	

Rectangular holes based on measurement of longest side.

- Leave ⅛" of web (minimum) at top and bottom of hole. **DO NOT cut joist flanges.**
- Tables are based on uniform load tables in current design literature.
- For simple span (5' minimum), uniformly loaded joists used in residential applications, one maximum size round hole may be located at the center of the joist span **provided that no other holes occur in the joist.**

ALLOWABLE HOLES - Headers and Beams

1.55E TimberStrand® LSL Headers and Beams

1.55 E TimberStrand® LSL

Header or Beam Depth	Maximum Round Hole Size
9¼"-9½"	3"
11¼"-11 ⅞"	3⅝"
14"-16"	4⅝"

See illustration for allowed hole zone

General Notes

- Allowed hole zone suitable for headers and beams with **uniform and/or concentrated loads anywhere along the member**.
- Round holes only
- No holes in headers or beams in plank orientation.

Other Trus Joist® Headers and Beams

DO NOT cut, notch or drill holes in headers or beams except as indicated in illustrations and tables.

Other Trus Joist® Beams

Header or Beam Depth	Maximum Round Hole Size
4⅜"	1"
5½"	1¾"
7¼"- 20"	2"

See illustration for Allowed Hole Zone

General Notes

- Allowed hole zone suitable for headers and beams with **uniform loads only.**
- Round holes only
- No holes in cantilevers.
- No holes in headers or beams in plank orientation.

WARNING

Joists are unstable until braced laterally

Bracing Includes:

- Blocking
- Hangers
- Sheathing
- Rim Board
- Strut Lines
- Rim Joist

DO NOT walk on joists until braced. INJURY MAY RESULT.

DO NOT walk on joists that are lying flat.

DO NOT stack building materials on unsheathed joists. Stack only over beams or walls.

WARNING NOTES:

Lack of proper bracing during construction can result in serious accidents. Observe the following guidelines:

1. All blocking, hangers, rim boards and rim joists at the end supports of the TJI® joists must be completely installed and properly nailed.
2. Laterial strength, like braced end wall or an existing deck, must be established at the ends of the bay. This can also be accomplished by a temporary or permanent deck (sheathing) fastened to the first 4 feet of joists at the end of the bay.
3. Safety bracing of 1x4 (minimum) must be nailed to a braced end wall or sheathed area (as in note 2) and to each joist. Without this bracing, buckling sideways or rollover is highly probable under light construction loads - such as a worker or one layer of unnailed sheathing.
4. Sheathing must be completely attached to each TJI® joist before additional loads can be placed on the system.
5. Ends of cantilevers require safety bracing on both the top and bottom flanges.
6. The flanges must remain straight within 1/2" from true alignment.

Warning: Drilling, sawing, sanding or machining wood products generates wood dust. The paint and/or coating on this product may contain titanium dioxide. Wood dust and titanium dioxide are substances known to the state of California to cause cancer. For more information on Proposition 65, visit wy.com/inform.

October 2017 Reorder TJ-4015

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SHEET DATES / DESC.
4/15/2024

NEW CONSTRUCTION
Pennsylvania Townhouses
INGHAM COUNTY LAND BANK
LANSING,MICHIGAN

DETAILS

A1.8

PLUMBING FIXTURE SCHEDULE:

WC-1 KOHLER WELLWORTH # K-3978-TR, WHITE, VITREOUS CHINA, FLOOR MOUNT, TWO-PIECE, TANK TYPE, ELONGATED BOWL, 14 ½" TO LIP, PRESSURE CLEAN ASSIST TECHNOLOGY, 1.6 GPF, KOHLER STRONHOLD # K-4731, SOLID PLASTIC SEAT, WHITE OPEN FRONT, NO COVER, HEAVY DUTY, ANTI-MICROBRIAL AGENT, SELF SUSTAINING CHECK HINGE, CHROME HANDLE,

L-1 DROP-IN COUNTER TOP LAVATORY, 19x16 OVAL, WHITE VITREOUS CHINA, KOHLER PENNINGTON MODEL # K-2196, CHROME PLATED BRASS APPURTENANCES: FIXED GRATE STRAINER, DRAIN TAIL PIECES AND P-TRAP, COMMERCIAL GRADE ANGLE SUPPLY STOPS (LOOSE KEY), RIGID OR FLEXIBLE SUPPLIES. PROVIDE SINGLE LEVER, HI-RISE FAUCET, CHROME PLATED BRASS ASSE 1017 MIXING VALVE ON THE HOT WATER SIDE.

S-1 DOUBLE COMPARTMENT, ADA COMPLIANT, SS DROP-IN SINK, ELKAY MODEL # LRAD332186S, 33 x 21 x 6 ½" DEEP, TYPE 304 SS, HIGH SATIN FINISH, 18 GA, SOUND DEADENING MATERIAL BOTTOM AND ALL SIDES, 3 ½" DRAIN WITH DUO-BASKET STRAINER, ELKAY MODEL # LK800GN0814, HIGH RISE SWING SPOUT WITH LEVER HANDLE OPERATORS, UNDER SINK SUPPLIES AND TAIL PIECES DESCRIPTION SAME AS L-1.

TS-1 KOHLER ENTITY TUB SHOWER COMBINATION, RIGHT OR LEFT AS SHOWN ON PLANS, 60x32, ACRYLIC, WITH BATH DRAIN, WHITE, DELTA CLASSIC TUB/SHOWER HARDWARE, INCLUDE TUB SPOUT WITH DIVERTER, SINGLE HANDLE WATER FLOW CONTROL VALVE WITH TEMPERATURE AND PRESSURE REGULATION, ADJUSTABLE SHOWER HEAD, ALL PIPE, VALVES AND FITTINGS, INCLUDE IMPERVIOUS MATERIAL ON ALL THREE WALLS OF FIXTURE ENCLOSURE, CHROME PLATED BRASS.

PLUMBING EQUIPMENT SCHEDULE:

FD-1 ASME A112.21.1; LACQUERED CAST IRON TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEEP HOLES, REVERSIBLE CLAMPING COLLAR, AND 6 INCH DIAMETER, ROUND, ADJUSTABLE NICKEL-BRONZE STRAINER. PROVIDE TRAP PRIMER CONNECTION AT ALL LOCATIONS SHOWN ON PLANS, AND AS MAY BE REQUIRED BY CODE, WHETHER SPECIFICALLY SHOWN, OR NOT.

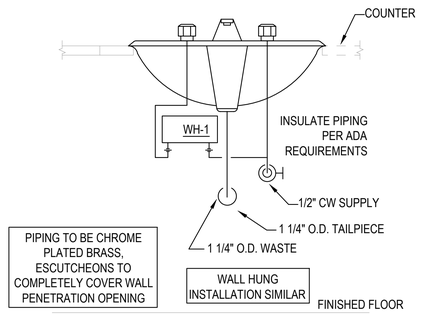
EWH-1 ELECTRIC WATER HEATER, 4.5 KW, 208V/1Ø, 40 GAL STORAGE, P/T RELIEF VALVE WITH FULL SIZE DISCHARGE TO FLOOR DRAIN, MOUNT IN OVERFLOW DRAIN PAN WITH MOISTURE ALARM SWITCH.

HB-1 FREEZE PROOF EXTERIOR HOSE BIB, EXTERIOR WHEEL HANDLE OPERATION.

PLUMBING FIXTURE CONNECTIONS

FIXTURE	W	V	HW	CW	REMARKS
WC	3"	1 ½"	--	½"	--
TS	2"	1 ¼"	½"	½"	--
LAV	1 ¼"	1 ¼"	½"	½"	--
SINK	1 ½"	1 ¼"	½"	½"	--

1. ROUGH-IN TO EACH FIXTURE SHALL BE AS INDICATED ABOVE UNLESS SPECIFICALLY NOTED TO THE CONTRARY.
2. REFER TO THE ARCHITECTURAL PLANS FOR PLUMBING FIXTURE SPECIFICATIONS.



LAVATORY TEMPERING VALVE INSTALLATION

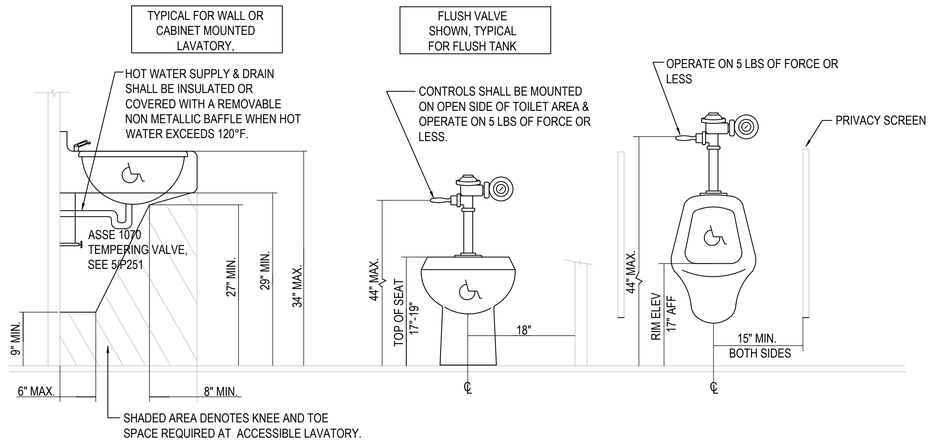
3 P1.1 NO SCALE

GENERAL PLUMBING NOTES:

1. ALL SYSTEMS AND INSTALLATION SHALL CONFORM TO ALL APPLICABLE CODE REQUIREMENTS. PLUMBING FOR THIS PROJECT IS GOVERNED BY THE 2015 MICHIGAN PLUMBING CODE. THE INSTALLING CONTRACTOR IS ASSUMED TO BE FAMILIAR WITH THIS CODE, AND IS HEREBY CHARGED WITH COMPLETING THE INSTALLATION OF THE SYSTEMS SHOWN HEREON IN COMPLETE COMPLIANCE WITH THIS CODE, AS WELL AS ALL OTHERS THAT MAY APPLY.
2. ALL DRAWINGS ARE DIAGRAMMATIC IN NATURE, AND ARE NOT INTENDED TO SHOW EVERY JOINT, FITTING, OR OFFSET THAT MAY BE REQUIRED TO PROPERLY COMPLETE THE SYSTEM. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION WITH ALL TRADES, AND PROVIDE ALL FITTINGS, OFFSETS, AND RE-ROUTING AS MAY BE REQUIRED.
3. THE COMPLETED INSTALLATION SHALL RESULT IN COMPLETE, PROPERLY OPERATING SYSTEMS.
4. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS AS A PART OF HIS BASE BID FOR THE PROJECT. THIS SHALL INCLUDE ALL REVIEW FEES THAT MAY BE CHARGED IN ORDER TO OBTAIN A PERMIT FOR CONSTRUCTION.
5. UNLESS OTHERWISE NOTED, ALL HORIZONTAL PORTIONS OF SYSTEMS SHOWN ARE INTENDED TO BE CONCEALED ABOVE CEILINGS, OR IN WALL CONSTRUCTION. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE LOCATION OF THE BUILDING INSULATION. IN ALL CASES, THE WATER PIPING SHALL BE INSTALLED SO THE BUILDING INSULATION IS BETWEEN THE PIPING AND THE OUTSIDE. VERTICAL PORTIONS ARE INTENDED TO BE CONCEALED INSIDE WALLS OR CHASES.
6. PROVIDE ROUGH-IN AND CONNECTION TO ALL FIXTURES AND EQUIPMENT. THE CONTRACTOR SHALL, BEFORE ROUGH-IN, CONFIRM THE DETAILED REQUIREMENTS OF EACH ITEM OF EQUIPMENT BEING PROVIDED.
7. PENETRATIONS THROUGH FIRE AND/OR SMOKE BARRIERS SHALL BE SEALED TO MAINTAIN THE RATING OF THE BARRIER.
8. ALL DOMESTIC WATER PIPING ABOVE FLOOR TO BE TYPE "L" HARD COPPER WITH WROUGHT FITTINGS, AND 95/5 TIN ANTIMONY SOLDER, OR CODE APPROVED EQUAL, PROVIDE 1" THICK ARMACELL, OR EQUAL, INSULATION FOR ALL HOT AND COLD WATER PIPING.
9. SANITARY PIPING ABOVE CEILINGS OF OCCUPIED SPACES TO BE HUBLESS CAST IRON, UNDERGROUND IS PERMITTED TO BE PVC.
10. WASTE, AND VENT PIPING SHALL BE PVC WITH SOLVENT WELDED JOINTS AND SHALL CONFORM TO THE REQUIREMENTS OF THE PLUMBING CODE.
11. PROVIDE RPZ BACKFLOW PREVENTION AT ALL LOCATIONS REQUIRED BY AUTHORITY HAVING JURISDICTION, PROVIDE REQUIRED ACCESS TO SAME AS NECESSARY.
12. COORDINATE WORK WITH ALL OTHER TRADES BEFORE INSTALLATION TO ELIMINATE CONFLICTS.
13. CONFIRM ALL INVERT ELEVATIONS OF SYSTEMS PROVIDED BY THE SITE CIVIL CONTRACTOR, ADJUST NEW PIPING LAYOUT AS NECESSARY TO MAKE CODE REQUIRED SLOPES.
14. PROVIDE DOCUMENTATION SHOWING PROPER COMPLETION OF ALL REQUIRED SYSTEM TESTS. THIS DOCUMENTATION SHALL BE SATISFACTORY TO THE AHJ.
15. ALL PENETRATIONS THROUGH ROOF TO CONFORM TO ROOF WARRANTY REQUIREMENTS.

NOT USED

2 P1.1 NO SCALE



BARRIER FREE PLUMBING FIXTURE INSTALLATION

1 P1.1 NO SCALE

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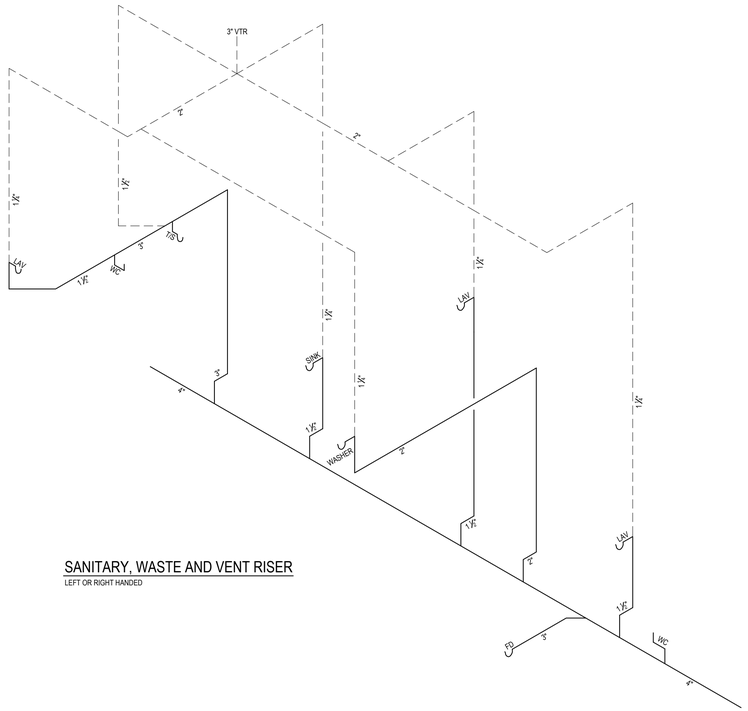
PENNSYLVANIA TOWNHOUSES

500 PENNSYLVANIA AVENUE
LANSING, MICHIGAN 48912

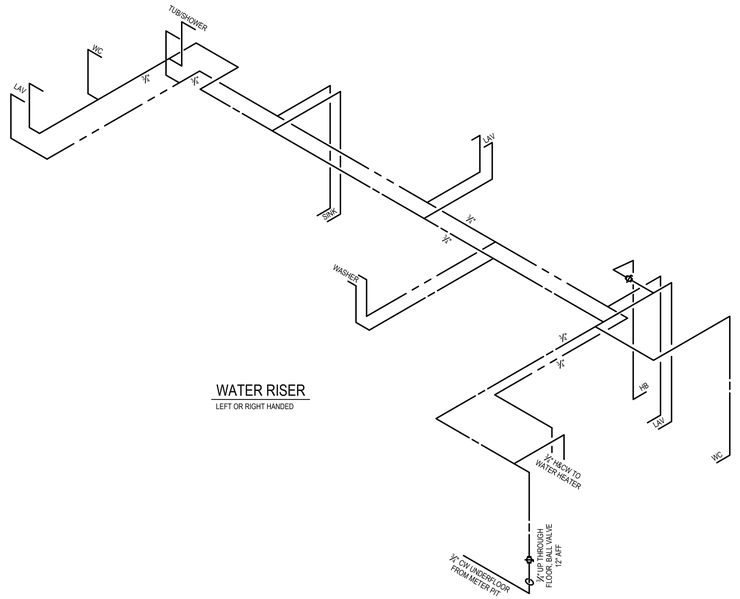
NUMBER	ISSUES/REVISION DESCRIPTION	DATE
1	CONSTRUCTION	2024.05.14

DRAWING TITLE:
PLUMBING NOTES AND DETAILS

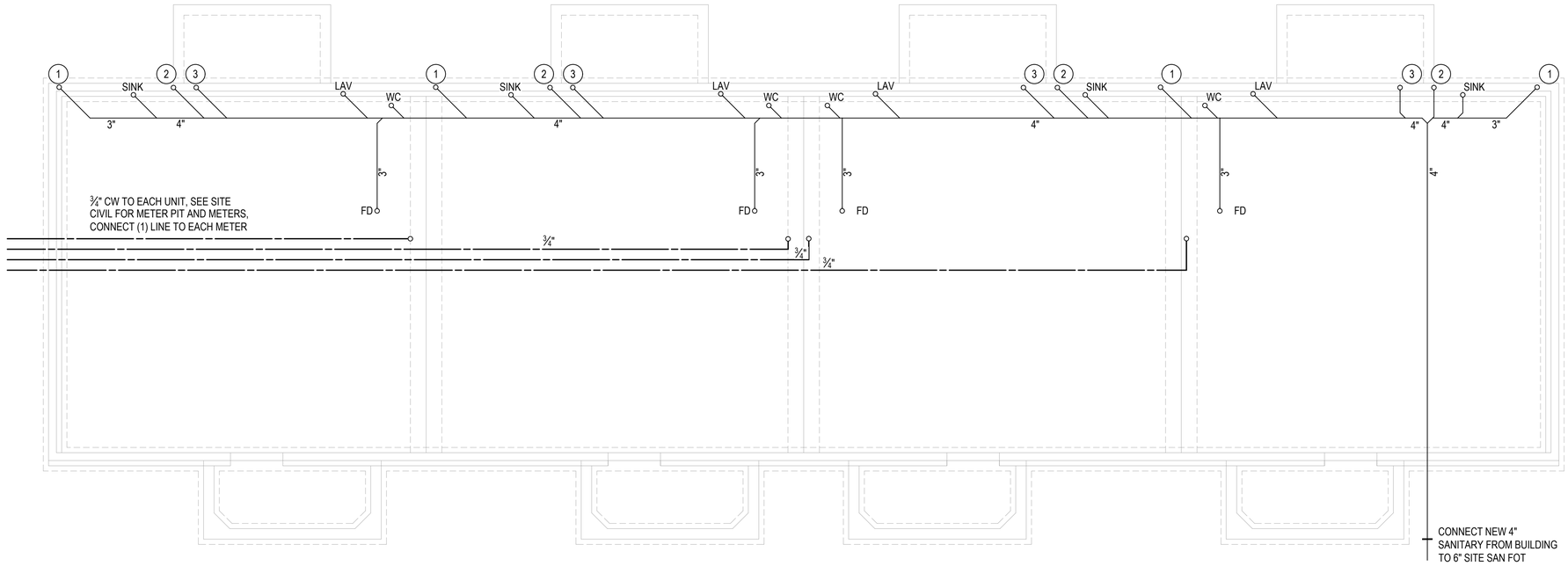
PROJECT NO:
DATE: 2024.04.24
PROJECT MANAGER: Todd Callaway
DRAWING NO: **P1.1**
DESIGNED BY: Morgan Landon PE
ENGINEERING BY: Morgan Landon PE



SANITARY, WASTE AND VENT RISER
LEFT OR RIGHT HANDED



WATER RISER
LEFT OR RIGHT HANDED



PLUMBING FOUNDATION PLAN
¼" = 1' - 0"

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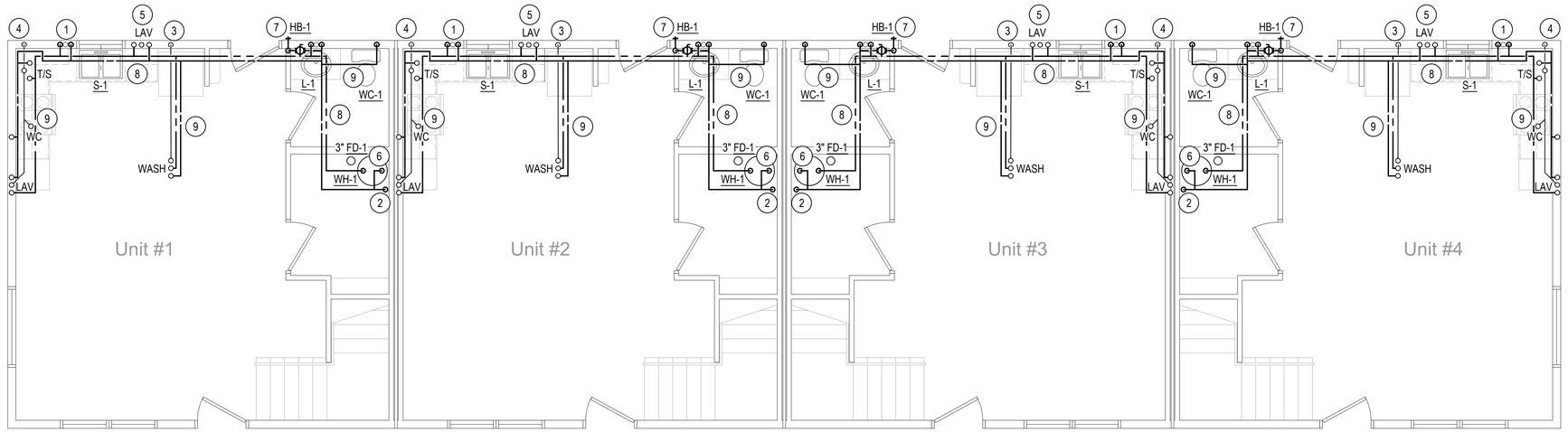
NUMBER	ISSUES/REVISION DESCRIPTION	DATE
1	CONSTRUCTION	2024.05.14

DRAWING TITLE:
PLUMBING FOUNDATION PLAN AND RISERS

PROJECT NO:	DATE: 2024.04.24
PROJECT MANAGER: Todd Callaway	DRAWING NO: **P2.0**
DESIGNED BY: Morgan Landon PE	
ENGINEERING BY: Morgan Landon PE	

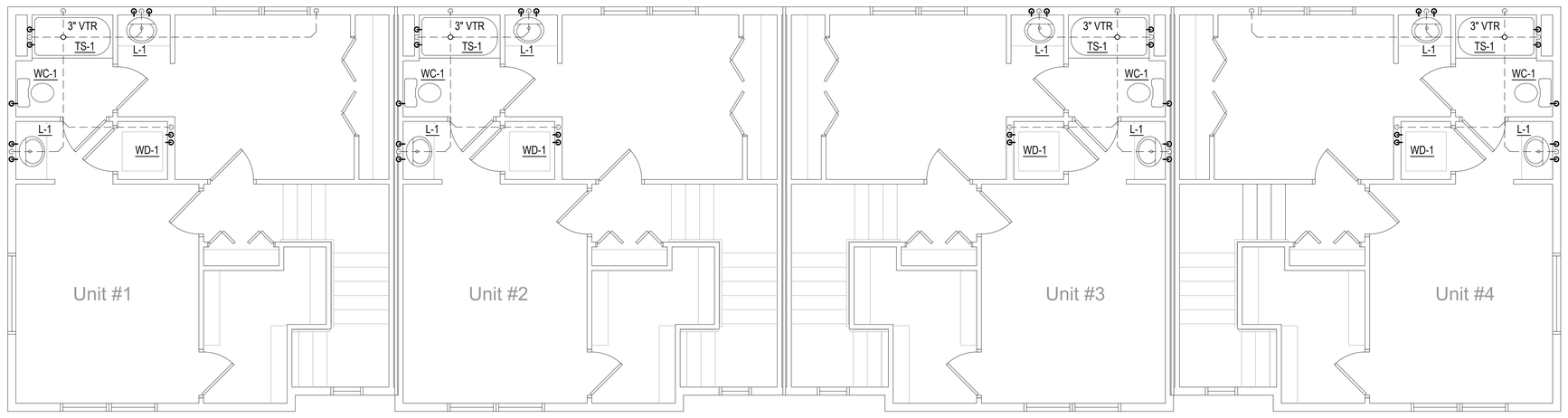
KEYED NOTES - P2.1

1. ½" H&CW DOWN, 1 ¼" VENT UP TO SERVE SINK IN COUNTER BELOW WINDOW, OFFSET PIPING THROUGH STUDS TO AVOID WINDOW.
2. ¾" CW UP FROM BELOW FLOOR, SHUT-OFF BALL VALVE 12" AFF.
3. 2" WASTE FROM WASHER DOWN IN WALL.
4. 3" SANITARY DOWN IN WALL.
5. 1 ½" WASTE DOWN IN WALL.
6. ¾" H&CW TO AND FROM WATER HEATER.
7. ¾" CW WITH BALL VALVE ABOVE CEILING (WITH ACCESS PANEL) DOWN TO HOSE BIB 24" ABOVE GRADE.
8. FOLLOW DUCT WORK INSIDE BULKHEAD.
9. PIPING BETWEEN OR THROUGH JOISTS AS NECESSARY TO SERVE FIXTURES.



PLUMBING FIRST FLOOR PLAN

¼" = 1' - 0"



PLUMBING SECOND FLOOR PLAN

¼" = 1' - 0"

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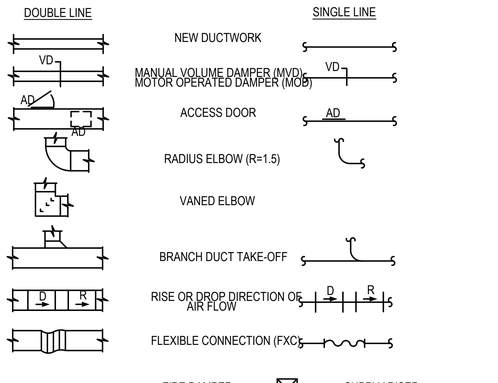
DESIGNED BY: Morgan Landon PE	
ENGINEERING BY: Morgan Landon PE	

DUCTWORK SYMBOLS

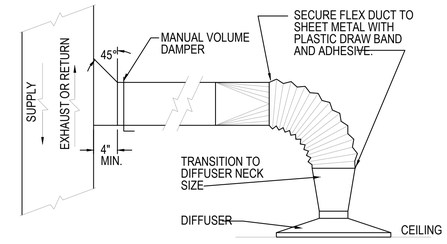


MECHANICAL EQUIPMENT LIST

F-1 FC-1 FC-2 FC-3	NATURAL GAS FIRED VERTICAL FLOW HIGH EFFICIENCY FURNACE, NOMINAL 900 CFM, ½ HP BLOWER MOTOR, 120V/1Ø, 15A MOCP, MATCHING CASED COOLING COIL, NOMINAL 2-TON COOLING, MATCH TO CU-1.
CU-1	AIR COOLED CONDENSING UNIT, NOMINAL 2-TON COOLING CAPACITY, 13 SEER2, R-410A, MOUNT ON LEVEL 3" HIGH PLASTIC EQUIPMENT SUPPORT PAD, RUN REFRIGERANT PIPING TO COOLING COIL AT F-1, SIZE AND ROUTE PER MANUFACTURERS REQUIREMENTS, 208V/1Ø, 12 MCA, 20A MOCP.
EF-1	CEILING EXHAUST FAN, SUPER QUIET, 80 CFM, 120V/1Ø, SEPARATE SWITCH.
EFL-1	SAME AS EF-1 WITH 15W LED LIGHT INCLUDED.
S-1	12x6 FLOOR OR CEILING SUPPLY AIR REGISTER, DOUBLE DEFLECTION, STEEL, COLOR PER ARCHITECT, ADJUST REGISTER FROM FACE.
S-2	10x4, SAME AS S-1.
S-3	10x4 WALL REGISTER, STEEL, COLOR PER ARCHITECT, ADJUST REGISTER FROM FACE, MOUNT BOTTOM OF REGISTER JUST ABOVE ARCHITECTURAL BASE.
S-4	14x6, SAME AS S-1.
R-1	30x10, FIXED BLADE GRILLE, 35°, ¾" SPACING, STEEL, OFF-WHITE, MOUNT INVERTED ABOVE DOOR.
TG-1	14x8, FIXED BLADE GRILLE, 35°, ¾" SPACING, STEEL, OFF-WHITE, FULL SIZE PLENUM THROUGH WALL, SEE PLAN FOR CONNECTED DUCT SIZE.

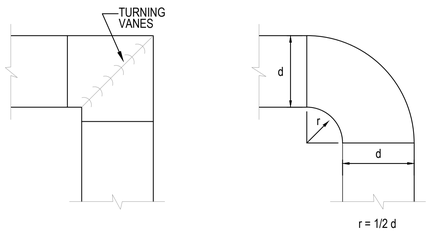
GENERAL MECHANICAL NOTES:

1. ALL SYSTEMS AND INSTALLATION SHALL CONFORM TO ALL APPLICABLE CODE REQUIREMENTS. THE PRIMARY CODE IN THIS JURISDICTION IS THE 2015 MICHIGAN MECHANICAL CODE. THE CONTRACTOR IS ASSUMED TO BE FAMILIAR WITH THIS, AND ALL OTHER CODES APPLICABLE TO THIS PROJECT.
2. ALL DRAWINGS ARE DIAGRAMMATIC IN NATURE, AND ARE NOT INTENDED TO SHOW EVERY JOINT, FITTING, OR OFFSET THAT MAY BE REQUIRED TO PROPERLY COMPLETE THE SYSTEM. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION WITH ALL TRADES, AND PROVIDE ALL FITTINGS, OFFSETS, AND RE-ROUTING AS MAY BE REQUIRED.
3. THE FINISHED INSTALLATION SHALL RESULT IN COMPLETE, PROPERLY OPERATING SYSTEMS.
4. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS AS A PART OF HIS BASE BID FOR THE PROJECT.
5. DEMONSTRATE THE PROPER OPERATION OF ALL MECHANICAL EQUIPMENT AND SYSTEMS TO THE OWNER'S SATISFACTION.
6. PROVIDE ROUGH-IN AND CONNECTION TO ALL FIXTURES AND EQUIPMENT.
7. NATURAL GAS PIPING SHALL BE STEEL. INSTALLATION SHALL CONFORM TO THE 2015 MICHIGAN FUEL GAS CODE. PAINT ALL GAS PIPING BRIGHT YELLOW AND MARK REGARDING CONTENTS AND DIRECTION OF FLOW.
8. ALL DUCTWORK TO BE SHEET METAL AND CONFROM TO SMACNA INSTALLATION REQUIREMENTS.
9. ALL DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE DIMENSIONS.
10. INSULATE CONCEALED SUPPLY AIR DUCTS WITH 1 ½" FIBERGLASS BLANKET.
11. INSULATE OUTSIDE AIR INTAKE DUCT FROM INLET TO MOTORIZED DAMPER WITH 1 ½" FIBERGLASS BLANKET.
12. INSULATE EXHAUST AIR DUCTS FROM EXHAUST CAP TO BACKDRAFT DAMPER AT FAN WITH 1 ½" FIBERGLASS BLANKET.



2 / M3.1 TYPICAL DUCT TAKE-OFF AND DIFFUSER CONNECTION

NO SCALE



NOTE: RADIUS TURNS WITH AN INSIDE RADIUS OF LESS THAN 1/2 d ARE NOT ACCEPTABLE.

1 / M3.1 ACCEPTABLE DUCT TURNS

NO SCALE

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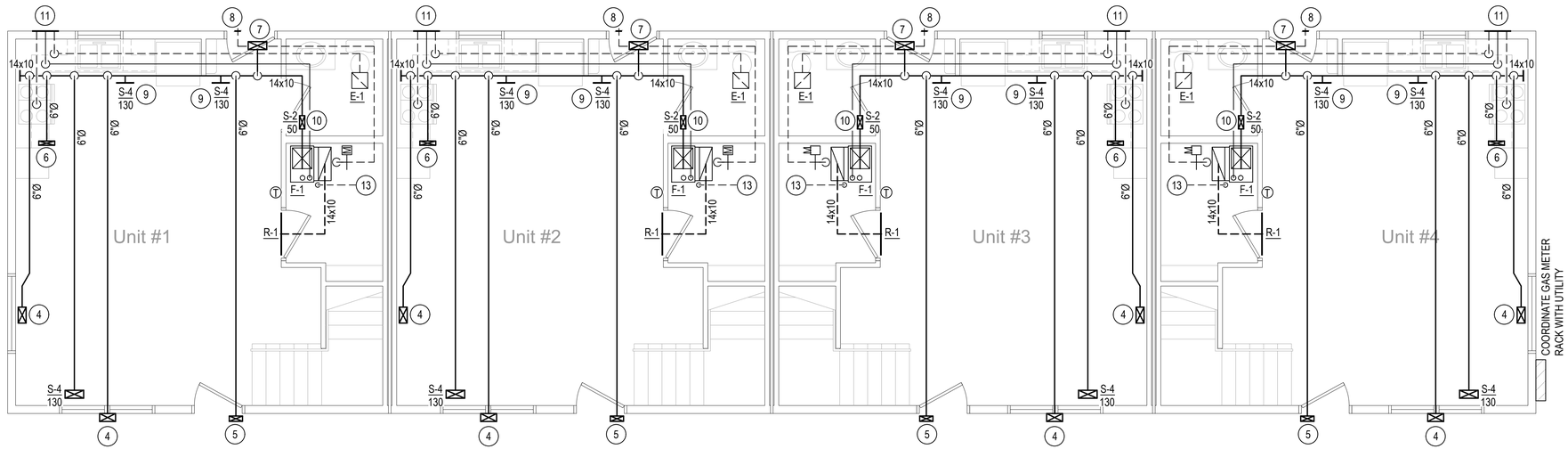
DRAWING TITLE:
MECHANICAL NOTES AND DETAILS

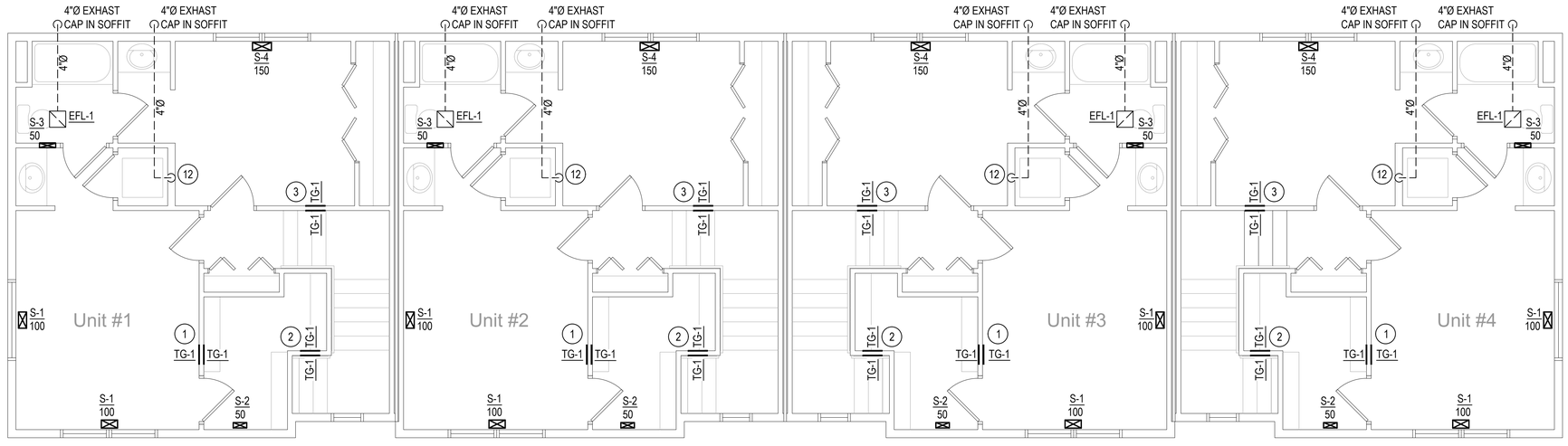
PROJECT NO:	DATE: 2024.04.24
PROJECT MANAGER: Todd Callaway	DRAWING NO: **M1.1**
DESIGNED BY: Morgan Landon PE	
ENGINEERING BY: Morgan Landon PE	

KEYED NOTES - M2.1

1. TRANSFER GRILLES IN ONE STUD SPACE, BOTH HIGH, BOTH INVERTED TO PREVENT SIGHT LINE THROUGH GRILLES.
2. TRANSFER GRILLES IN ONE STUD SPACE, LOW WALL IN CLOSET, HIGH IN STAIRWELL, MOUNT STAIRWELL GRILLE INVERTED TO PREVENT SIGHT LINE THROUGH GRILLE.
3. TRANSFER GRILLES IN ONE STUD SPACE, LOW WALL IN BEDROOM, HIGH IN STAIRWELL, MOUNT STAIRWELL GRILLE INVERTED TO PREVENT SIGHT LINE THROUGH GRILLE.
4. 6"Ø TO 12x6 BOOT UP THROUGH FLOOR TO FLOOR REGISTER ABOVE.
5. 6"Ø TO 10x4 BOOT UP THROUGH FLOOR TO FLOOR REGISTER ABOVE.
6. 6"Ø TO 12x3 ¼" BOOT UP INTO STUD SPACE ABOVE TO SERVE WALL REGISTER.
7. 6"Ø TO 14x6 BOOT UP THROUGH FLOOR TO FLOOR REGISTER ABOVE.
8. 6"Ø OUTSIDE AIR INTAKE CAP.
9. MOUNT SUPPLY AIR REGISTER ON FACE OF BULKHEAD.
10. REGISTER IN CEILING OF RESTROOM.
11. 6"Ø RANGE HOOD EXHAUST AND WALL CAP (RANGE HOOD BY OTHERS), CONCENTRIC TERMINATION KIT FOR FURNACE, 4"Ø EXHAUST AND WALL CAP FROM RESTROOM EXHAUST FAN.
12. FLAT DRYER EXHAUST BOX BETWEEN STUDS, OVAL DUCT UP IN STUD SPACE, THEN 4"Ø ABOVE CEILING TO DISCHARGE CAP THROUGH SOFFIT.
13. 1" GAS TO METER RACK ON SOUTH END OF BUILDING.



MECHANICAL FIRST FLOOR PLAN
¼" = 1' - 0"



MECHANICAL SECOND FLOOR PLAN
¼" = 1' - 0"

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MECHANICAL FLOOR PLANS

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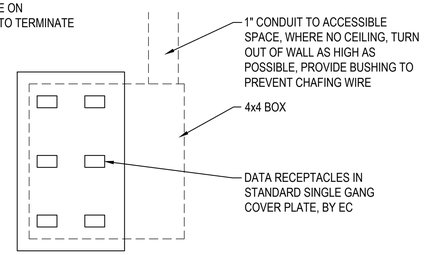
DESIGNED BY: Morgan Landon PE	
ENGINEERING BY: Morgan Landon PE	

POWER SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
12	GROUNDED DUPLEX RECEPTACLE (NEMA 5-20R); MOUNTED 18" AFF UON; NUMBER INDICATES CIRCUIT.		GROUNDED QUADRUPLEX RECEPTACLE (NEMA 5-15R); MOUNTED 18" AFF UON.
	GROUNDED DUPLEX RECEPTACLE (NEMA 5-15R); GROUND FAULT INTERRUPTOR		240 VOLT RECEPTACLE, COORDINATE WITH EQUIPMENT
+48	GROUNDED DUPLEX RECEPTACLE (NEMA 5-15R) MOUNTED 48" AFF		
▷	DATA OUTLET BOX, SEE NOTE 1		GROUNDED SINGLE FLOOR RECEPTACLE (NEMA 5-15R).
			GROUNDED DUPLEX FLOOR RECEPTACLE (NEMA 5-15R).
	THREE PHASE MOTOR	Y FB X Z	ELECTRICAL FLOOR BOX, SEE NOTE 2
SD	SMOKE DETECTOR	AP	WIRELESS ACCESS POINT IN CEILING
	SPECIAL CONNECTION	CD	COMBINATION SMOKE / CO2 DETECTOR
	POWER PANEL	T1	TRANSFORMER, SEE SCHEDULE

1. PROVIDE 4x4 BOX WITH CONDUIT TO ACCESSIBLE SPACE, SEE DETAIL, SWITCH PLATE COVER AND CAT 6 CABLES ARE INCLUDED IN THIS CONTRACT. NUMBER INDICATES COUNT OF CAT 6 CABLE TO RUN FROM THIS LOCATION TO PATCH PANEL, CONTRACTOR TO TERMINATE ON OUTGOING SIDE OF PATCH PANEL, OWNER TO TERMINATE FROM HIS EQUIPMENT TO PATCH PANEL.

2. X = NUMBER OF DUPLEX RECEPTACLES
   Y = NUMBER OF DATA RECEPTACLES
   Z = POWER CIRCUIT NUMBER(S)



PANEL A 500 PENNSYLVANIA TOWNHOMES

240-120 Volt / 1 Phase / 3 Wire

LOCATION: MECH/ELEC ROOM
SHEET NUMBER: E201
MOUNTING: RECESSED

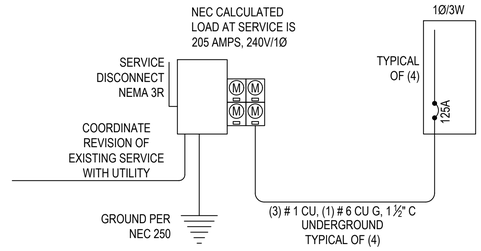
CKT	DESCRIPTION	BA	VA1	VA2	BA	DESCRIPTION	CKT
1	F-1	20	1200		20	SMALL APPLIANCE CIRCUIT	2
3	RECEPTACLES, BATHROOMS	20		400	20	SMALL APPLIANCE CIRCUIT	4
5	WH-1	25	2250	400	20	KITCHEN RECEPTACLES	6
7				2250	20	KITCHEN RECEPTACLES	8
9	RANGE	50	4800	200	20	LIVING, RECEPTACLES	10
11			1000	4800	20	BEDROOM, RECEPTACLES	12
13	DRYER	30	2900	1200	20	LAUNDRY RECEPTACLES	14
15			800	2900	20	DW, DISP, RECEPTACLE	16
17	RECEPTACLES, BEDROOM	20	1000		25	CU-1	18
19	LIGHTING	20	1300	1000			20
21	RECEPTACLES, RESTROOMS	20	600	1300	20		22
23		20			20		24
25		20			20		26
27		20			20		28
29		40			20		30
	TOTALS		16,650	14,450			

CONNECTED VA	31,100	25,000	DEMAND VA
CONNECTED AMPS	130	104	DEMAND AMPS

MAIN BREAKER
SQUARE D HOMELINE

MAIN BUS = 125A

CALCULATED LOAD	
LIGHTING	
1,060 SQ FT x 3VA/SF =	3,180
GENERAL LOADS	
(2) SMALL APPLIANCE CIRCUITS	3,000
(1) LAUNDRY CIRCUIT	1,500
WATER HEATER	4,500
DRYER	4,800
RANGE	5,000
MICROWAVE	1,500
FURNACE FAN	1,200
CONDENSING UNIT	2,500
TOTAL	**27,180**
AMPS AT 240V/1PHASE	**113**



ONE-LINE DIAGRAM

NO SCALE

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	CATALOG NUMBER (LITHONIA UON)	LAMPS	REMARKS
A	SURFACE DISC	WAC LIGHTING 6"Ø 3000K 1100 LMN	15W LED	
B	WALL MOUNTED VANITY LIGHT	FMVCCLS 24" MVOLT SWITCHABLE 90 CRI BN M6	27W LED	
B1	WALL MOUNTED VANITY LIGHT	RALBAY MID CENTURY MODERN, (3) G9 BULBS	30W LED	
C	4 FT SURFACE STRIP	CSS L48 4KLM MVOLT 40K 80 CRI	36W LED	
D	WALL SCONCE	WESTINGHOUSE WINSLETT 6579000 700 LMN 30K	12W LED	
E	SURFACE DISC	WAC LIGHTING FM OBRN 5"Ø 3000K 1050 LMN BK	12W LED	
F	CEILING FAN/LIGHT	HUNTER SWANSON 44" LED BOWL LIGHT WHITE	20W LED	

NOTES:

1. COORDINATE FINISHES AND INSTALLATION REQUIREMENTS WITH ARCHITECT BEFORE FIXTURES ARE PURCHASED.

GENERAL ELECTRICAL NOTES:

1. ALL WORK IS TO BE PERFORMED IN STRICT ACCORDANCE WITH THE 2017 NATIONAL ELECTRIC CODE, STATE LAWS, AND ALL OTHER REGULATIONS GOVERNING WORK OF THIS NATURE.
2. THE CONTRACTOR SHALL PROVIDE AND PAY FOR ALL WORK, MATERIAL, AND LABOR TO ESTABLISH COMPLETE AND PROPERLY WORKING SYSTEMS.
3. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS, APPLICATIONS AND FEES AS MAY BE NECESSARY TO COMPLETE THE WORK.
4. FINAL ROUTING OF ALL CONDUITS SHALL BE ESTABLISHED BY THE ELECTRICAL CONTRACTOR IN COORDINATION WITH THE WORK OF ALL OTHER TRADES.
5. ALL POWER WIRING SHALL BE STRANDED COPPER CONDUCTOR WITH THHN INSULATION RATED 600 VOLTS. MINIMUM WIRE SIZE, # 12 AWG.
6. INCREASE WIRE SIZES NOTED ON PLANS OR IN SCHEDULES AS REQUIRED BY CODE FOR LONG RUNS.
7. BURIED CONDUIT SHALL BE PVC.
8. BRANCH CIRCUIT CONDUIT SHALL BE EMT.
9. THE ELECTRICAL CONTRACTOR SHALL PROPERLY GROUND ALL SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE.
10. ALL MATERIALS AND EQUIPMENT PROVIDED FOR THIS PROJECT SHALL BE NEW AND UL APPROVED FOR THE INTENDED USE.
11. THE CONTRACTOR SHALL PERFORM ALL REQUIRED TESTING OF ALL ELECTRICAL SYSTEMS. THE CONTRACTOR SHALL CORRECT ALL DEFECTS INDICATED BY TESTING AND THEN RETEST UNTIL SATISFACTORY RESULTS ARE OBTAINED.
12. NO EQUIPMENT SHALL BE ENERGIZED UNTIL ALL TESTS AND ADJUSTMENTS HAVE BEEN COMPLETED.

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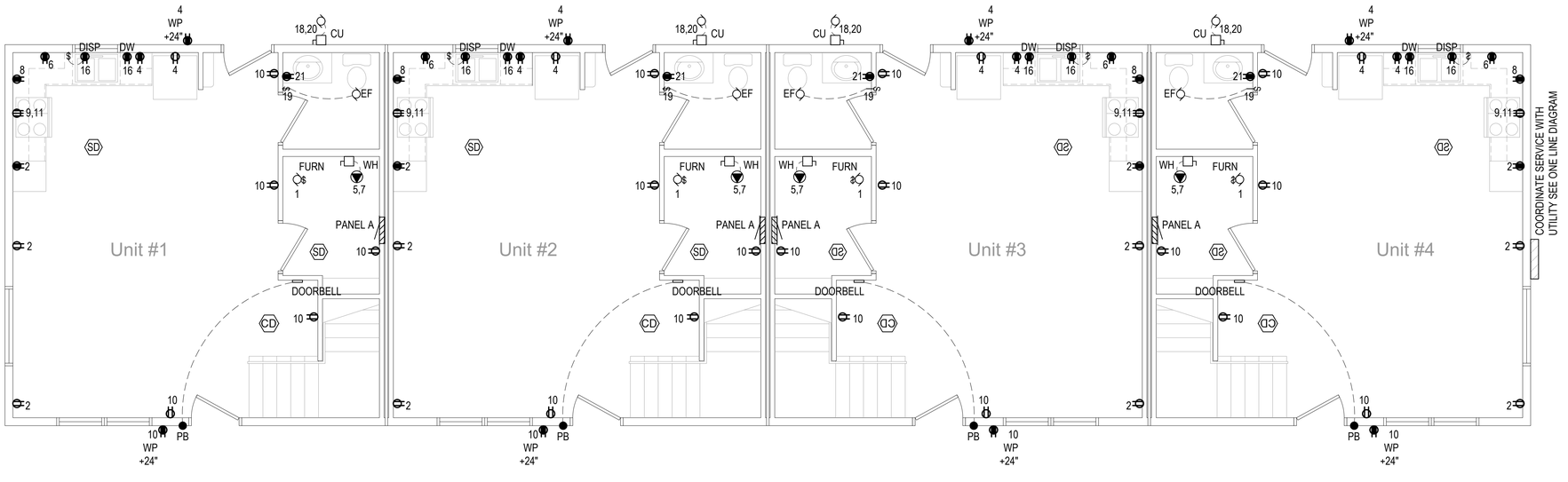
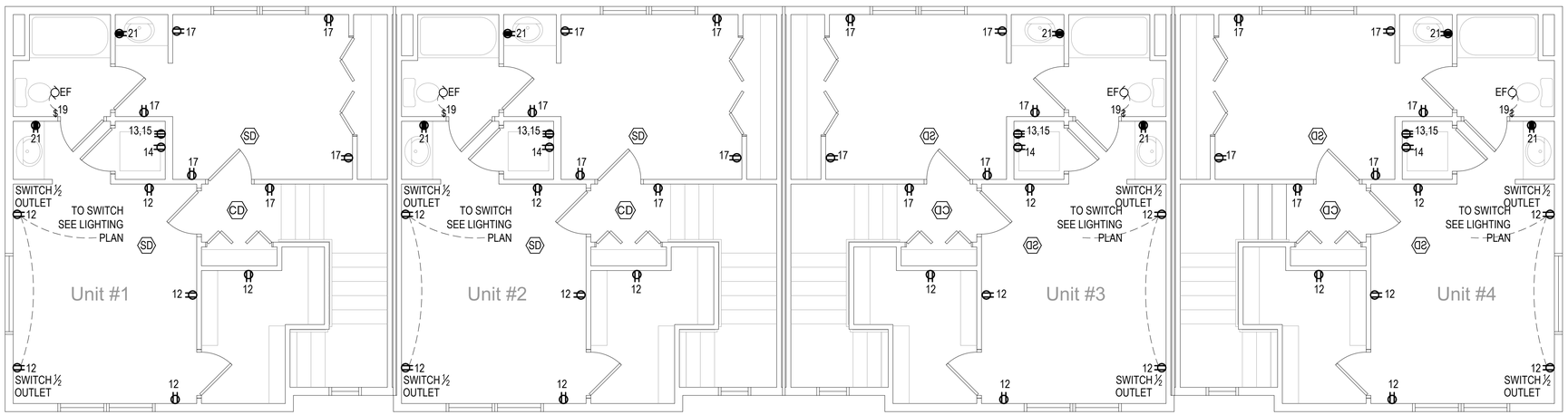


ELECTRICAL POWER FIRST FLOOR PLAN

¼" = 1' - 0"



ELECTRICAL POWER SECOND FLOOR PLAN

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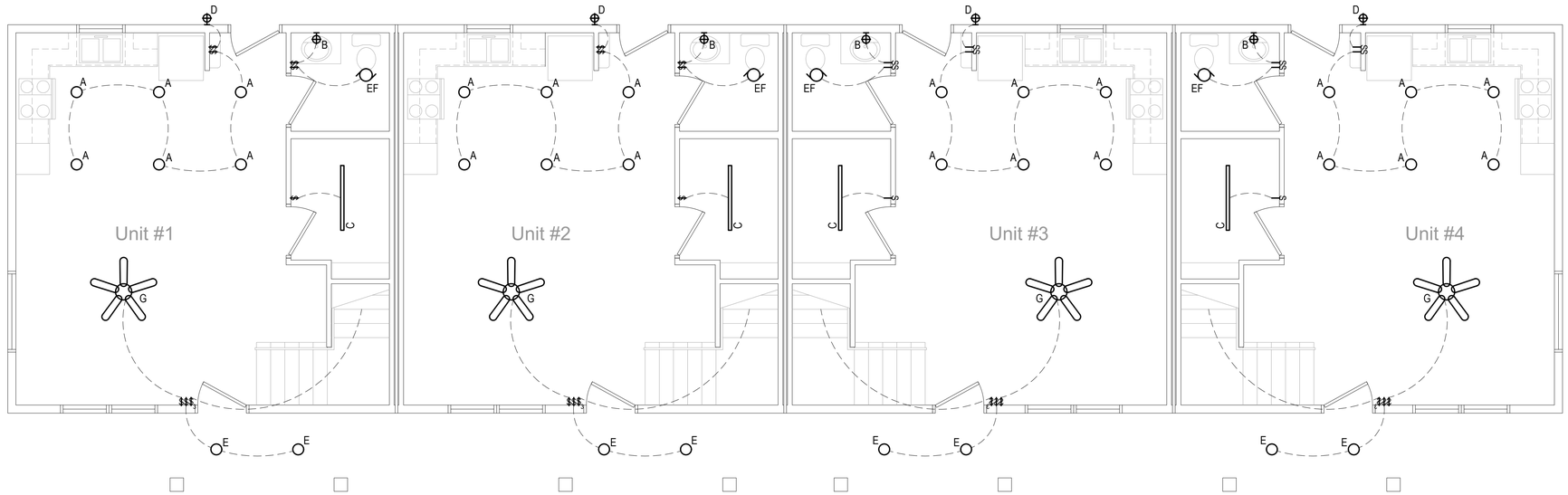
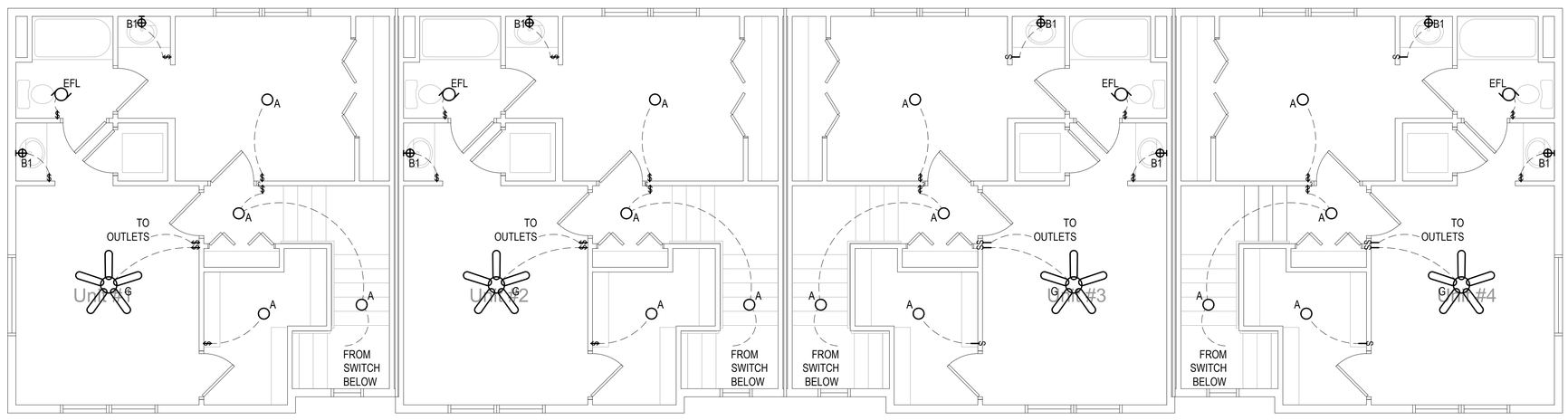


ELECTRICAL LIGHTING FIRST FLOOR PLAN

¼" = 1' - 0"



ELECTRICAL LIGHTING SECOND FLOOR PLAN

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ENGINEERING BY: Morgan Landon PE	