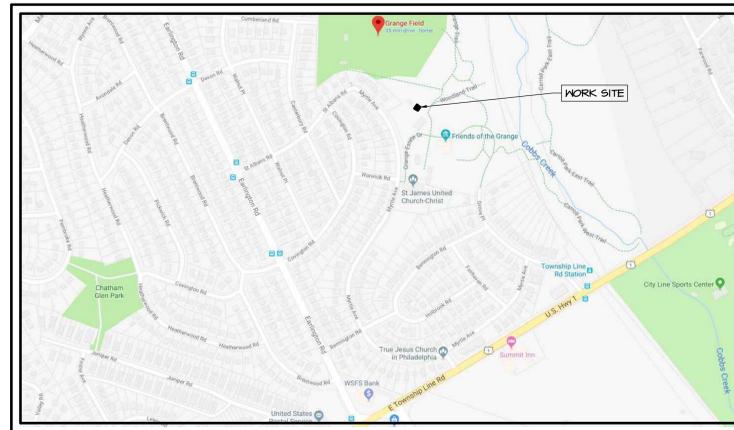


# GRANGE ESTATE NECESSARY ROOF REPLACEMENT

143 MYRTLE AVENUE  
HAVERTOWN PA. 19083



PREPARED FOR:  
OWNER  
**TOWNSHIP OF HAVERFORD**  
1014 DARBY ROAD  
HAVERTOWN PA. 19083  
(610) - 446 - 1000



**KEY PLAN**  
SCALE: NONE

DRAWING LIST				
SHEET	SHEET DESCRIPTION	REV #	PLAN DATE	REV DATE
CS	COVER SHEET	REV 2	02/12/2024	01/08/2025
CM0501	EXISTING CONDITIONS/ACCESS PLAN	REV 2	02/12/2024	01/08/2025
S001	STRUCTURAL GENERAL NOTES	REV 2	02/12/2024	01/08/2025
S100	STRUCTURAL PLANS AND ELEVATIONS	REV 2	02/12/2024	01/08/2025
S101	STRUCTURAL SECTIONS AND DETAILS	REV 2	02/12/2024	01/08/2025
S102	PHOTOS & SHUTTER REPAIR NOTES	REV 2	02/12/2024	01/08/2025
S103	CUPOLA PLAN	REV 2	02/12/2024	01/08/2025

PREPARED BY:  
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ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

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143 MYRTLE AVENUE  
HAVERTOWN PA. 19083  
COVER SHEET  
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HAVERTOWN PA. 19083

NO.	DATE	REVISIONS	BY
1	01/08/25	ISSUED FOR BID	GDK
2	01/08/25	REVISED PER RELOP'D COMMENTS	GDK
1	02/12/24	REVISED PER RELOP'D COMMENTS	GDK

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE. IN RESPECT OF THE PROJECT, THEY ARE NOT INTENDED OR REPRESENTED TO BE SUBSTITUTES FOR THE SERVICES OF AN ARCHITECT OR ENGINEER OR OTHER PROFESSIONAL PERSONNEL. THE USER OF THESE DOCUMENTS FOR ANY OTHER PURPOSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED SHALL BE AT OWNERS RISK AND WITHOUT LIABILITY ON THE PART OF PENNONI ASSOCIATES. PENNONI ASSOCIATES SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	HAVT721842
DATE	02/12/2024
DRAWING SCALE	AS NOTED
DRAWN BY	JMF
APPROVED BY	RES
<b>CS</b>	
SHEET	1 OF 7

**GENERAL NOTES:**

- THE GRANGE ESTATE DATES BACK TO 1797 AND IS LISTED ON THE NATIONAL REGISTER OF HISTORIC PLACES. THE CONTRACTOR MUST BE FULLY AWARE OF THIS AND USE EXTREME CARE TO COMPLETE THE WORK WHILE PRESERVING ALL EXISTING FEATURES.
- THE LIMIT OF DISTURBANCE IS DEPICTED ON THE PLAN. NO ADDITIONAL DISTURBANCE IS PERMITTED UNLESS SPECIFICALLY PERMITTED IN WRITING BY THE TOWNSHIP. THE CONTRACTOR MUST REQUEST IN WRITING TO USE ANY AREA BEYOND THE INDICATED LIMIT OF DISTURBANCE. THIS REQUEST MUST BE ADDRESSED TO THE TOWNSHIP MANAGER. APPROVAL FROM ANY OTHER PERSON IS NOT VALID.
- THE CONTRACTOR SHALL DOCUMENT ALL EXISTING CONDITIONS PRIOR TO MOBILIZATION OF ANY EQUIPMENT VIA VIDEO PER THE SPECIFICATIONS.
- UTILITY LINES INDICATED ON THE PLANS ARE INDICATED TO THE EXTENT POSSIBLE VIA FIELD VERIFICATION AND EXISTING RECORDS. THE CONTRACTOR SHALL BE AWARE THAT UTILITIES IN THE AREA ARE SHALLOW. HEAVY EQUIPMENT, INCLUDING CONCRETE TRUCKS ARE NOT PERMITTED OVER THESE UTILITIES. ANY DAMAGE TO THE EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR/REPLACE TO THE SATISFACTION OF THE TOWNSHIP.
- THE CONTRACTOR MUST RECOGNIZE THE HISTORICAL SIGNIFICANCE OF THE BUILDING AND CONDUCT THEIR WORK IN A MANNER WHICH WILL NOT IN ANY WAY DAMAGE OR OTHERWISE DEGRADE ANY FEATURE OF THE COMPLEX INCLUDING LANDSCAPING. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRS OF ALL DAMAGE TO PROPERTY TO THE SATISFACTION OF THE TOWNSHIP.
- JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- ALL ACCESS TO THE GRANGE ESTATE SHALL BE FROM MYRTLE AVENUE ONLY.
- THE CONTRACTOR WILL BE PERMITTED TO WORK ON THE PREMISES FROM 8:00 AM TO 6:00 PM, MONDAY TO FRIDAY. WRITTEN PERMISSION FROM THE TOWNSHIP MUST BE OBTAINED TO WORK ANY OTHER HOURS OR DAYS. NO WORK IS PERMITTED ON THE WEEKEND.
- ALL WORK SHALL CONFORM TO THE "2018 INTERNATIONAL BUILDING CODE" AND ALL OTHER FEDERAL, STATE, AND LOCAL REQUIREMENTS.
- ALL WATER AND ELECTRICITY REQUIRED TO PERFORM THE WORK UNDER THIS CONTRACT SHALL BE SUPPLIED BY THE CONTRACTOR.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SECRETARY OF INTERIOR STANDARDS FOR WORK ON HISTORIC BUILDINGS. THE FOLLOWING LINK TO THE ASSOCIATED PRESERVATION BRIEFS: [HTTP://WWW.NPS.GOV/ORG/1739/PRESERVATION\\_BRIEFS.HTM](http://www.nps.gov/orgs/1739/preservation_briefs.htm) IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES AND DETAILS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.
- WORK NOT INDICATED ON THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL MEASUREMENTS AND EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF DEMOLITION. ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE PLAN SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE TOWNSHIP. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS OF THE SITE PRIOR TO COMMENCING WITH CONSTRUCTION AND NOTIFY THE TOWNSHIP OF ANY CONDITIONS THAT MAY BE WORSENE BY THE PROPOSED IMPROVEMENTS.
- IF EXISTING FIELD CONDITIONS DO NOT PERMIT THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE PLANS AND DETAILS SHOWN, THE CONTRACTOR SHALL NOTIFY THE TOWNSHIP IMMEDIATELY AND PROVIDE A SKETCH OF THE CONDITIONS WITH PROPOSED MODIFICATIONS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. DO NOT COMMENCE WORK UNTIL MODIFICATION IS APPROVED BY THE TOWNSHIP.
- SHOP DRAWINGS FOR ALL MATERIALS TO BE SUBMITTED TO THE TOWNSHIP FOR REVIEW PRIOR TO THE START OF FABRICATION OR COMMENCEMENT OF WORK. REVIEW PERIOD SHALL BE A MINIMUM OF THREE (3) WEEKS.
- THE CONTRACTOR SHALL FULLY PROTECT ALL EXISTING BUILDING COMPONENTS FOR THE DURATION OF THE WORK. UNTIL THE ROOF IS FULLY SHEATHED, A HEAVY DUTY TARP (16 MIL MINIMUM) MUST BE INSTALLED OVER THE ENTIRE BUILDING EVERY NIGHT TO PROTECT THE INTERIOR FROM FURTHER DAMAGE AND WEATHER.
- THE CONTRACTOR SHALL FULLY PROTECT ALL EXISTING STONE WALLS SURROUNDING THE STRUCTURE. ANY DAMAGE TO THE EXISTING WALLS SHALL BE REPAIRED TO THE SATISFACTION OF THE TOWNSHIP.
- DURING DEMOLITION, THE CONTRACTOR SHALL EVALUATE AND SALVAGE ALL EXISTING WOOD COMPONENTS INCLUDING JOISTS, LINTELS, RAFTERS, DECORATIVE MOLDINGS AND OTHER COMPONENTS THAT ARE FREE FROM ROT, DETERIORATION, INFESTATION, MOLD OR OTHER DECAY THAT WOULD PROHIBIT REUSE OF THE MATERIAL. THESE COMPONENTS SHALL BE NEATLY STOCKPILED AT A DESIGNATED LOCATION FOR EXAMINATION BY TOWNSHIP/GRANGE PERSONNEL. ALL WOOD COMPONENTS NOT SELECTED TO BE RETAINED BY THE TOWNSHIP/GRANGE PERSONNEL SHALL BE REMOVED AND LEGALLY DISPOSED OF BY THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND LEGALLY DISPOSING OF ALL LOOSE/FALLEN MATERIAL FROM THE ENTIRE INTERIOR OF THE BUILDING AND ALL AREAS SURROUNDING THE BUILDING.
- THE CONTRACTOR SHALL BE AWARE THAT THE EXISTING PAINT ON VARIOUS COMPONENTS OF THE BUILDING LIKELY IS COMPOSED OF LEAD BASED PAINT. THE CONTRACTOR SHALL BE REQUIRED TO TEST THIS MATERIAL IN ADVANCE OF ANY WORK. ALL TEST RESULTS SHALL BE SUBMITTED TO THE TOWNSHIP FOR REVIEW. NO WORK SHALL COMMENCE UNTIL THE TEST RESULTS ARE PROVIDED TO THE TOWNSHIP AND THE TOWNSHIP HAS REVIEWED THEM.
- THE CONTRACTOR IS FULLY RESPONSIBLE FOR LEGALLY DISPOSING OF ALL MATERIAL IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS. THIS INCLUDES ANY MATERIAL THAT HAS LEAD PAINT. ALL DOCUMENTATION FOR DISPOSAL OF ANY COMPONENTS WITH LEAD PAINT SHALL BE PROVIDED TO THE TOWNSHIP.
- SHOP DRAWINGS SHALL BEAR THE CONTRACTORS STAMP OF APPROVAL WHICH SHALL CONSTITUTE CERTIFICATION THAT THE CONTRACTOR HAS VERIFIED ALL CONSTRUCTION CRITERIA, MATERIALS, AND SIMILAR DATA AND HAS CHECKED EACH DRAWING FOR COMPLETENESS, COORDINATION, AND COMPLIANCE WITH THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL PROTECT ALL WORK FROM DAMAGE OR FUTURE DETERIORATION DUE TO WEATHER CONDITIONS.
- ALL EXISTING WALKWAYS AND PAVING SHALL BE PROTECTED FROM DAMAGE. 3/4-INCH PLYWOOD OR OTHER APPROVED MATERIALS SHALL BE USED TO PROTECT THE SURFACE FROM DAMAGE.
- NO EXCAVATION OF ANY GROUND SURFACE IS PERMITTED WITH THIS PROJECT.**

**CONSTRUCTION ACCESS:**

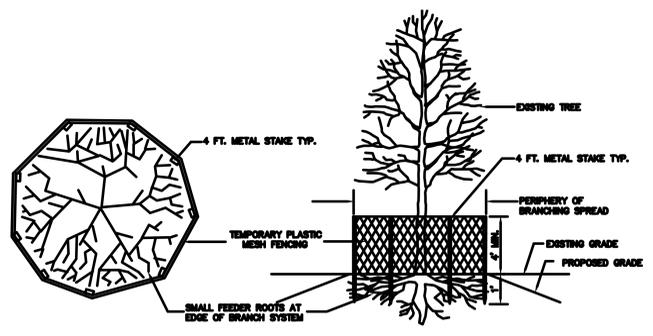
- ALL CONSTRUCTION VEHICLES MUST BE PARKED AT THE END OF THE DRIVEWAY ADJACENT TO THE REQUIRED ACCESS ROUTE. VEHICULAR ACCESS THROUGH THE DRIVE ON THE SOUTH SIDE OF THE WALL AND THROUGH THE PORTICO MUST BE MAINTAINED AT ALL TIMES.
- THE REQUIRED ACCESS ROUTE AS INDICATED ON THE PLAN MUST BE USED FOR ALL EQUIPMENT NECESSARY TO COMPLETE THE WORK.

**TREE PROTECTION:**

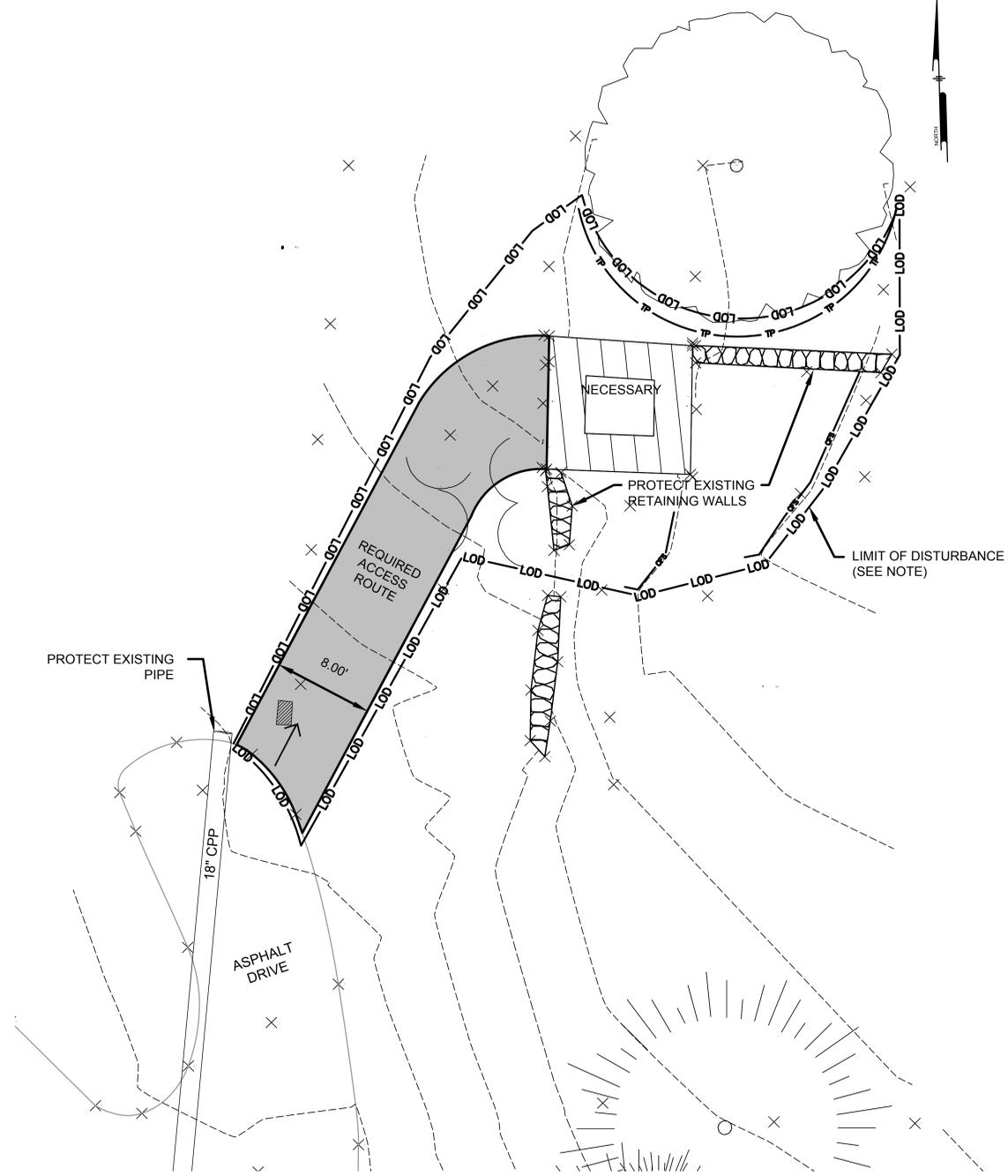
- NO TREES SHALL BE REMOVED OR TRIMMED TO COMPLETE THIS WORK UNLESS AUTHORIZED IN WRITING BY THE TOWNSHIP.**
- INSTALL ALL TREE PROTECTION FENCE PRIOR TO COMMENCEMENT OF ANY WORK. TREE PROTECTION FENCING SHALL BE 4-FOOT-HIGH PLASTIC FENCE (SEE DETAIL). COLOR SHALL BE ORANGE. FENCE TO BE SECURED TO METAL POSTS INSTALLED AT 5-FOOT INTERVALS (SEE DETAIL)

**PA ACT 287 OF 1974 AS AMENDED BY ACT 181 OF 2006:**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND STRUCTURES AND UTILITIES, SUCH AS WATER MAINS, SEWERS, TELEPHONE, GAS AND ELECTRIC CONDUITS, ETC. AND ABOVE GROUND UTILITIES, WHICH MAY BE ENCOUNTERED DURING CONSTRUCTION OPERATIONS. TEST HOLES SHALL BE DUG TO DETERMINE THE POSITION OF THE UNDERGROUND STRUCTURES AND UTILITIES, OR THE CONTRACTOR SHALL ARRANGE WITH THE OWNERS OF SUCH UNDERGROUND STRUCTURES AND UTILITIES TO ASSIGN A REPRESENTATIVE TO MARK THE LOCATIONS. THE CONTRACTOR SHALL PAY THE COST OF DIGGING TEST HOLES AND LIKEWISE HE SHALL PAY THE COST OF THE SERVICE OF THE REPRESENTATIVES OF THE OWNERS OF SUCH UTILITIES FOR LOCATING THE SAID UTILITIES. THE COST OF DETERMINING THE LOCATIONS IS TO BE INCLUDED IN THE PRICES BID. THE LOCATIONS AND DEPTH OF EXISTING STRUCTURES AND UTILITIES AS SHOWN IN THE CONTRACT DOCUMENTS IS SIMPLY FOR THE GUIDANCE OF THE CONTRACTOR AND HAVE NOT BEEN FIELD LOCATED. SINCE THE INFORMATION IS AS FURNISHED BY THE RESPECTIVE UTILITIES, OR TAKEN FROM NON-AS-BUILT PLANS, THE ENGINEER IS NOT RESPONSIBLE FOR THE ACCURACY OF THE PLANS IN THIS RESPECT.



**TREE PROTECTION FENCE**  
N.T.S



**PLAN OF WORK AREA**  
1"=5'

**LEGEND**

	EX BUILDING
	EX EDGE OF PAVEMENT
	EX FENCE LINE
	EX MINOR CONTOUR
	EX MAJOR CONTOUR
	EX SPOT ELEVATION
	EX SANITARY SEWER
	EX STORM PIPE
	EX STORM INLET
	EX TREE
	PROPOSED SITE ENTRANCE
	PROPOSED TREE PROTECTION FENCE
	PROPOSED COMPOST FILTER SOCK
	LIMIT OF DISTURBANCE



**LOCATION MAP**  
SCALE: 1" = 500'



**AERIAL PLAN**  
N.T.S.

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**GRANGE ESTATE NECESSARY ROOF REPLACEMENT**

143 MYRTLE AVENUE  
HAVERTOWN, PA 19083

**STRUCTURAL GENERAL NOTES**  
 TOWNSHIP OF HAVERFORD  
 1014 BARBY ROAD  
 HAVERFORD, PA 19083

NO.	DATE	REVISIONS	BY
1	01/08/25	ISSUED FOR BID	GRK
2	01/08/25	REVISED PER DELO PD COMMENTS	GRK
3	02/12/24	REVISED PER DELO PD COMMENTS	GRK

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PROJECT	HAVT21842
DATE	02/12/2024
DRAWING SCALE	AS NOTED
DRAWN BY	JMF
APPROVED BY	RES

**CM0501**  
SHEET 2 OF 7

PLOTTED: 10/02/24 12:27 PM BY: ERM/MS/EBR  
 PLOTTED: 10/02/24 12:27 PM BY: ERM/MS/EBR  
 PROJECT FILE: GR --  
 PROJECT: 10/02/24 12:27 PM BY: ERM/MS/EBR  
 PLOTTED: 10/02/24 12:27 PM BY: ERM/MS/EBR  
 PROJECT: 10/02/24 12:27 PM BY: ERM/MS/EBR

**GENERAL STRUCTURAL AND CONSTRUCTION NOTES**

1. ALL WORK SHALL CONFORM TO THE 2018 INTERNATIONAL BUILDING CODE AND TO ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
2. IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES AND DETAILS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.
3. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED.
4. JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL COSTS OF INVESTIGATION AND/OR REDESIGN DUE TO CONTRACTOR IMPROPER INSTALLATION OF STRUCTURAL ELEMENTS OR OTHER ITEMS NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS SHALL BE AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL VERIFY ALL EXISTING BUILDING INFORMATION SHOWN (DIMENSIONS, ELEVATIONS, ETC.) AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION OF ANY STRUCTURAL COMPONENT.
7. THE CONTRACTOR SHALL VERIFY AND/OR ESTABLISH ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE. FAILURE TO NOTIFY ENGINEER OF UNSATISFACTORY CONDITIONS CONSTITUTES ACCEPTANCE OF UNSATISFACTORY CONDITIONS.
8. IF THE EXISTING FIELD CONDITIONS DO NOT PERMIT THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE DETAILS SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND PROVIDE A SKETCH OF THE CONDITION WITH HIS PROPOSED MODIFICATION OF THE DETAILS PROVIDED IN THE CONTRACT DOCUMENTS. DO NOT COMMENCE WORK UNTIL CONDITION IS RESOLVED AND MODIFICATION IS APPROVED BY THE TOWNSHIP.
9. WHERE ALTERATIONS INVOLVE THE EXISTING SUPPORTING STRUCTURE, THE CONTRACTOR SHALL PROVIDE SHORING AND PROTECTION REQUIRED TO ENSURE THE STRUCTURAL INTEGRITY OF THE EXISTING STRUCTURE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGINGS, BRACINGS, SHEETING, AND SHORING, ETC.
11. SHOP DRAWINGS FOR ALL STRUCTURAL MATERIALS TO BE SUBMITTED TO TOWNSHIP FOR REVIEW PRIOR TO THE START OF FABRICATION OR COMMENCEMENT OF WORK. REVIEW PERIOD SHALL BE A MINIMUM OF TWO (2) WEEKS.
12. SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL WHICH SHALL CONSTITUTE CERTIFICATION THAT THE CONTRACTOR HAS VERIFIED ALL CONSTRUCTION CRITERIA, MATERIALS, AND SIMILAR DATA AND HAS CHECKED EACH DRAWING FOR COMPLETENESS, COORDINATION, AND CONFORMANCE WITH THE CONTRACT DOCUMENTS.
13. THE DRAWINGS HAVE BEEN PRODUCED ENTIRELY ON PENNONI CAD SYSTEM. ANY OTHER LETTERING, LINES OR SYMBOLS, OTHER THAN PROFESSIONAL STAMPS AND SIGNATURES, HAVE BEEN MADE WITHOUT THE AUTHORIZATION OF PENNONI ARE INVALID.
14. ALL MATERIALS SHALL BE STORED TO PROTECT THEM FROM EXPOSURE TO THE ELEMENTS.

- 2.0 MASONRY
  1. MASONRY HAS BEEN DESIGNED IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-1B/ASCE 5-13) AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530-1B/ASCE 6-13), EXCEPT WHERE OTHERWISE MODIFIED BY THESE GENERAL NOTES AND SPECIFICATIONS.
  2. THE NECESSARY IS PART OF THE NATIONAL REGISTER LISTING FOR THE GRANGE ESTATE. THE SECRETARY OF THE INTERIOR STANDARDS APPLY TO THIS WORK. FOR CONVENIENCE, HERE IS THE LINK TO THE RELATED PRESERVATION BRIEF: BRIEF #21: <https://www.nps.gov/orgs/1734/upload/preservation-brief-02-repothng.pdf> BRIEF #22: <https://www.nps.gov/orgs/1734/upload/preservation-brief-22-stucco.pdf>
  3. FULL BED AND HEAD JOINTS SHALL BE PROVIDED.
  4. PROVIDE AND INSTALL TEMPORARY BRACING REQUIRED INSURING STABILITY OF ALL WALLS DURING CONSTRUCTION AND UNTIL ERECTION OF ATTACHED STRUCTURAL FRAMING IS COMPLETED.
  5. ALL MASONRY WORK TO BE EXECUTED IN COLD WEATHER SHALL BE IN CONFORMANCE WITH THE RECOMMENDATIONS FOR COLD WEATHER CONSTRUCTION FOUND IN THE BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-1B/ASCE 5-13) AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530-1B/ASCE 6-13) WITH THE FOLLOWING ADDITIONS: FOR ALL CONDITIONS WHEN TEMPERATURES FALL BELOW 40 DEGREES F, THE TEMPERATURE OF THE NEWLY LAID MASONRY OR NEWLY GROUTED MASONRY SHALL BE MAINTAINED ABOVE 32 DEGREES F FOR A MINIMUM OF 24 HOURS USING THE METHODS DESCRIBED IN ACI 530.1.
  6. MONITOR THE PROPORTIONING, MIXING, AND CONSISTENCY OF MORTAR, THE PLACEMENT OF MORTAR, AND MASONRY UNITS.

- 3.0 STRUCTURAL WOOD
  1. DESIGN, FABRICATION, AND CONSTRUCTION OF WOOD FRAMING SHALL CONFORM WITH THE FOLLOWING CODES AND STANDARDS:
    - A. "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION", 2015 EDITION. (WITH SUPPLEMENT), AMERICAN FOREST AND PAPER ASSOCIATION.
    - B. "TIMBER CONSTRUCTION MANUAL", FOURTH EDITION, AS ADOPTED BY THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION, INCLUDING THE "CODE OF STANDARD PRACTICE", AITC 106.
    - C. BUILDING COMPONENT SAFETY INFORMATION BC91-1-03 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES," WOOD TRUSS COUNCIL OF AMERICA AND TRUSS PLATE INSTITUTE.
  2. BASE DESIGN VALUES FOR ROOF TRUSS FRAMING: DOUG-FIR NO. 1 AND NO.2 (FB = 850 PSI, FV = 180 PSI, E = 1,600,000 PSI) MINIMUM.
  3. THE NECESSARY IS PART OF THE NATIONAL REGISTER LISTING FOR THE GRANGE ESTATE. THE SECRETARY OF THE INTERIOR STANDARDS APPLY TO THIS WORK. FOR CONVENIENCE, HERE IS THE LINK TO THE RELATED PRESERVATION BRIEF: BRIEF #14: <https://www.nps.gov/orgs/1734/upload/preservation-brief-14-wood-shingle-roofs.pdf>
  4. PROVIDE NAILING PATTERN IN COMPLIANCE WITH IRC RECOMMENDED FASTENING SCHEDULE WHEN JOINING TWO OR MORE FRAMING MEMBERS.
  5. ALL WOOD MEMBERS EXPOSED TO EXTERIOR TO BE PRESSURE TREATED.
  6. PROVIDE FASTENERS, ANCHORS AND CONNECTORS WITH ADEQUATE CORROSION PROTECTION, WHERE IN CONTACT WITH TREATED WOOD. PROVIDE MINIMUM ZMAX COATING WHERE SIMPSON CONNECTORS ARE USED IN CONTACT WITH TREATED WOOD.

- POST-INSTALLED ANCHORS**
1. ALL POST-INSTALLED AND SPECIALTY ANCHORS, INSTALLATION, AND INSPECTIONS SHALL BE IN ACCORDANCE WITH ALL GOVERNING LOCAL MUNICIPAL REGULATIONS, ACI 308, IBC, RELEVANT ICC-ESR REPORTS AND ALL ANCHORS SHALL BE FREQUALIFIED PER ACI 308 TESTING.
  2. ALL MECHANICAL AND EPOXY POST INSTALLED ANCHORS (IN CONCRETE OR MASONRY) ARE TO BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTION (MPI) AS INCLUDED IN THE ANCHOR PACKAGING AND THE APPLICABLE ICC-ESR REPORT INCLUDING, BUT NOT LIMITED TO, DRILL BIT TYPE AND SIZE, PROPER CLEANING AND HOLE PREPARATION, INSTALLATION TORQUE, EMBEDMENT DEPTHS, CONCRETE TEMPERATURE RANGES, CONCRETE AGE, MOISTURE CONDITION, ETC.
  3. ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY HILTI OR SUCH OTHER METHOD AS APPROVED BY THE EOR. SUBSTITUTION REQUEST FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE EOR. THE CONTRACTOR SHALL PROVIDE THE SIGNED AND SEALED CALCULATIONS, FROM A PROFESSIONAL ENGINEER REGISTERED IN THE LOCAL JURISDICTION, DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER GREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.
  4. ALL ANCHORS SHALL MEET THE MINIMUM EMBEDMENT, SPACING, EDGE DISTANCES AND SIDE THICKNESS CRITERIA ESTABLISHED BY THE RELEVANT ICC-ESR REPORT. THE ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO THE EDGE OF CONCRETE OR MASONRY SURFACE.
  5. EXISTING REINFORCING BARS IN THE CONCRETE OR MASONRY MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS INDICATED ON THE STRUCTURAL DRAWINGS. UNLESS NOTED OTHERWISE, THE REINFORCING BARS MAY NOT BE CUT. THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS (IF AVAILABLE) AND SHALL TAKE STEPS TO LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS USING NON-DESTRUCTIVE TESTING (FERROSCAN, GPR, X-RAY, OR OTHER APPROVED METHOD).
  6. DRILL AND GROUT/EPOXY REINFORCING BAR DOUELS AS SHOWN ON THE PLANS, DETAILS AND AS APPROVED, UNLESS NOTED OTHERWISE. EMBED BARS AS REQUIRED TO DEVELOP THE FULL TENSION CAPACITY OF THE BAR.
  7. EXCEPT WHERE INDICATED ON THE DRAWINGS, THE FOLLOWING POST-INSTALLED ANCHORS ARE APPROVED AS PROVIDED BY HILTI, INC. SUBSTITUTION OF THESE ANCHORS AND/OR USE OF ANY OTHER SPECIALTY ANCHORS SHALL BE SUBMITTED TO THE EOR FOR APPROVAL.

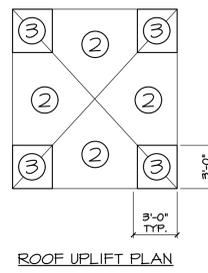
ADHESIVE ANCHORS	
SUBSTRATE	APPROVED SPECIFIED ADHESIVE AND ANCHOR
MASONRY	HILTI HIT-HY 270 MASONRY ADHESIVE ANCHORING SYSTEM WITH HAS-E ROD OR REBAR PER ICC ESR-4143

8. EPOXY CARTRIDGES SHALL UTILIZE THE CORRECT MIXING NOZZLE AS SUPPLIED BY THE MANUFACTURER. THE CONTRACTOR SHALL NOT RE-USE, MODIFY (CUT) OR REMOVE THE MIXING INSERT FROM THE MIXING NOZZLE.
9. THE CONTRACTOR SHALL UTILIZE APPROPRIATELY SIZED MESH SCREEN TUBES IN HOLLOW AND MULTI-WYTHE BRICK AND MASONRY APPLICATIONS.
10. ALL EPOXY ANCHORS THAT ARE TO BE INSTALLED HORIZONTALLY OR UPWARDLY INCLINED (OVERHEAD) ARE TO BE INSTALLED UTILIZING THE HILTI "PISTON-PLUS" ACCESSORY, REGARDLESS OF THE EPOXY MANUFACTURER OR MODEL. USING AN EXTENSION TUBE AND RETAINING GAP IS NOT AN ACCEPTABLE METHOD AND SHALL BE REJECTED BY THE INSPECTOR.
11. ALL ANCHOR RODS, WASHERS, AND NUTS SHALL HAVE THE FOLLOWING CORROSION PROTECTIONS, UNLESS NOTED OTHERWISE:
  - A. INTERIOR USE, NON-CORROSIVE CONDITION - ZINC COATED PER ASTM B633
  - B. EXPOSED TO WEATHER OR IN CONTACT WITH PT LUMBER OR CORROSIVE INDUCING ELEMENTS - MECHANICALLY DEPOSITED ZINC COATING PER ASTM B645 OR "HOT-DIP GALVANIZED (HDG) PER ASTM A153
  - C. NEAR SALT WATER OR EXTERIOR CORROSIVE ENVIRONMENTS - STAINLESS STEEL AISI 316
12. ALL ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED (OVERHEAD) TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY CERTIFIED PERSONNEL. CERTIFICATION SHALL INCLUDE WRITTEN AND PERFORMANCE TESTS IN ACCORDANCE WITH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM, OR AN APPROVED EQUIVALENT. THE CONTRACTOR SHALL SUBMIT CERTIFICATES FOR RECORD PRIOR TO INSTALLATION OF ANCHORS. THE ACCEPTABILITY OF CERTIFICATION OTHER THAN ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION SHALL BE THE RESPONSIBILITY OF THE EOR.
13. THE CONTRACTOR SHALL ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAININGS FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED ON THE STRUCTURAL DRAWINGS. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLATION OF ANCHORS.
14. THE OWNER'S TESTING AGENCY SHALL OBSERVE THE INITIAL INSTALLATION OF EACH ANCHOR TYPE AND DURING CONSTRUCTION AT INTERVALS IN ACCORDANCE WITH THE IBC CH 17 AND ACI 308. ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR VERTICALLY INCLINED (OVERHEAD) TO SUPPORT SUSTAINED TENSION LOADS SHALL BE CONTINUOUSLY OBSERVED BY THE SPECIAL INSPECTOR. THE SPECIAL INSPECTOR SHALL PROVIDE WRITTEN REPORTS TO THE EOR AND BUILDING OFFICIAL THAT INDICATE THAT THE MATERIALS USED AND THE INSTALLATION PROCEDURES USED CONFORM WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THE MPI. THE REPORTS SHALL INCLUDE DESCRIPTIONS OF THE MATERIALS AND PROCEDURES USED, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
  - A. ANCHOR INSTALLATION ENVIRONMENT (DRY OR SATURATED CONCRETE, CONCRETE TEMPERATURE RANGE)
  - B. DESCRIPTION OF THE DRILLING METHOD
  - C. DESCRIPTION OF THE HOLE CLEANING PROCEDURE FOR THE SELECTED ANCHOR TYPE
  - D. DESCRIPTION OF THE SELECTED ANCHOR TYPE AND SIZE RANGE (THREADED ROD OR REINFORCING BAR)

- NOTES:**
1. DRILL & EPOXY ANCHORS IN ACCORDANCE WITH THE MPI.
    - A. UTILIZE HILTI HIT-HY 200 IN CRACKED AND UNCRACKED CONCRETE CONSTRUCTION, UNLESS NOTED OTHERWISE ON PLANS AND DETAILS. HILTI RE-300 V3 IS AN ACCEPTABLE SUBSTITUTION.
    - B. UTILIZE HILTI HIT-HY 270 IN MASONRY AND MULTI-WYTHE CONSTRUCTION. PROVIDE APPROPRIATELY SIZED SCREEN TUBES IN HOLLOW AND MULTI-WYTHE MASONRY CONSTRUCTION ONLY.
  2. REFER TO PLANS AND DETAILS FOR QUANTITY, ANCHOR TYPE, DIAMETER, AND MINIMUM EMBEDMENT DEPTH.
  3. REFER TO THE MPI FOR INFORMATION NOT PROVIDED, INCLUDING BUT NOT LIMITED TO, MINIMUM EDGE DISTANCE, MINIMUM ANCHOR SPACING, CLEANING PROCEDURES, AND INSTALLATION TORQUE REQUIREMENTS BASED ON THE SELECTED ANCHOR TYPE, DIAMETER, APPLICABLE EPOXY SERIES AND CONSTRUCTION TYPE.

**STRUCTURAL ABBREVIATIONS**

ADPL. ADDITIONAL ANCHOR ROD	DET. DIA. DIAMETER	INFO. INV. INVERT	PROJ. PROJ. PROJECTION
APPRX. APPROXIMATE	DSR. DOUBLE SIDE ROD	ISOLATION JOINT	QTY. QUANTITY
AVG. AVERAGE	DNL. DONEL	JOINT KILONEGATION	REF. REFERENCE
ALT. ALTERNATE	DNG. DRAWING(S)	KIP. KNEE BRACE	REINF. REINFORCED
AISC. AMERICAN INSTITUTE OF STEEL CONSTRUCTION	E.F. EACH FACE	KFB. KILOFASCAL	REQ'D. REQUIRED
ASTM. AMERICAN SOCIETY FOR TESTING AND MATERIAL	EAL. EACH WAY	KFL. LONG LEGS HORIZONTAL	REV. REVISION
ARCH. ARCHITECT/ARCHITECTURAL	ELEC. ELECTRICAL	LL. LONG LEGS VERTICAL	SCH. SCHEDULE
B.P. BASE PLATE; BRG. FLATE	ELEV. ELEVATION	LLH. LONG LEGS HORIZONTAL	SECT. SECTION
B.M. BASEMENT	ELEVTR. ELEVATOR	LLV. LONG LEGS VERTICAL	SER. STRUCTURAL ENGINEER OF RECORD
B.RG. BEARING	EMBT. EMBEDMENT	L.S. LONG SLOTTED	S.F. STEPPED FOOTING
B.F. BOTH FACES	ENR. ENGINEER	L.P. LONG POINT	SH. SHORT SLOTTED
B.S. BOTH SIDES	E.O.R. ENGINEER OF RECORD	LBS. POUNDS	SIM. SIMILAR
B.LDG. BUILDING	E.Q. EQUIPMENT	L.H. LIGHTWEIGHT	SOE, SSOE
B.O.F. BOTTOM OF FOOTING	EXIST., EX. EXISTING	MFR. MANUFACTURER	S.O.G. SUPPORT OF EXCAVATION SHEETING & SLAB ON GRADE
BY. BOTTOM OF	EXP. EXPANSION JOINT	MPII. MANUFACTURER'S PRINTED MANUFACTURER'S INSTRUCTIONS	SFA. SPACE
CANT. CANTILEVER	F.S. FAR SIDE	MFD. MANUFACTURED	SET. STANDARD
CRNF. COLD FORMED METAL FRAMING	FT. FEET	MAX. MAXIMUM	STD. STEEL
CTR. CENTER	FIN. FINISHED	HTL. METAL	STL. STEEL JOIST INSTITUTE
C.L. CENTER LINE	FL. FLANGE	M. METER	STIFFR. STIFFENER
CLR. CLEAR	FLOOR. FLOOR	MM. MILLIMETER	STRUF. STRUT
COL. COLUMN	F.L. FLOOR DRAIN	MIN. MINIMUM	SYM. SYMMETRICAL
CO. COMPANY	FTG. FOOTING(S)	MISC. MISCELLANEOUS	STRCT. STRUCTURAL
CONC. CONCRETE	GALV. GALVANIZED	MO. MOMENT CONNECTION	SURF. SUBSURFACE UTILITY INVESTIGATION
CONSTR. CONSTRUCTION	GA. GENERAL CONTRACTOR	N.S. NEAR SIDE	TBD. TO BE DETERMINED
CONTR. CONTINUOUS	GRG. GRATING	N.W. NORMAL WEIGHT	TEMP. TEMPORARY
DBA. DEFORMED BAR ANCHOR	HR. HAND RAIL	NOT IN CONTRACT	THK. THICK
DES. DESIGN	H.C.P. HANDICAP	NOT TO SCALE	T&G. TONGUE AND GROOVE
DEMO. DEMOLITION, DEMOLISH	HGR. HANGER	NO. NUMBER	T&B. TOP AND BOTTOM
	H.P. HIGH POINT	O.C. ON CENTER	T.O.F. TOP OF FOOTING
	HORIZ. HORIZONTAL	OSHA. OUTSIDE FACE	T.O.S. TOP OF SLAB, TOP OF STEEL
	I.D. INSIDE DIAMETER	OPP. OPPOSITE	T. TOP OF TREAD
	INCHES	OPENING	TYP. TYPICAL
	INCORPORATED	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION	UNO. UNLESS NOTED OTHERWISE
		PERP. PERPENDICULAR	VERT. VERTICAL
		PL. PLATE	V.I.F. VERIFY IN FIELD
		P.J.F. PREFORMED JOINT FILLER	W/ WITH
		P.T. PRESSURE TREATED	W/O WITHOUT
			W/R WIRE REINFORCING
			WF WIDE FLANGE
			WP WORKPOINT
			W/W WALL TO WALL



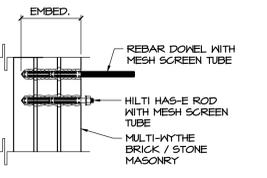
ROOF UPLIFT SCHEDULE				
ZONE	EFFECTIVE WIND AREA (ft²)	NET UPLIFT PRESSURE (psf)	EFFECTIVE WIND AREA (ft²)	NET UPLIFT PRESSURE (psf)
①	100	N/A	10	N/A
②	100	-10.1	10	-12.1
③	100	-10.1	10	-12.1

- NOTES:**
1. NET UPLIFT PRESSURE (SERVICE LEVEL) IS BASED ON ASD LOAD COMBINATION: 1.0D + 0.6W AND A ROOF DEAD LOAD OF 3 psf.
  2. DESIGN ALL ROOF FRAMING COMPONENTS FOR NET UPLIFT SHOWN IN SCHEDULE ABOVE.

**NET UPLIFT DIAGRAM**

SCALE: N.T.S.

LATERAL LOAD DESIGN		
2018 INTERNATIONAL BUILDING CODE / ASCE 7-16		
DESCRIPTION	SYMBOL	VALUE
BASIC WIND SPEED (3 SEC. GUST)	V	105 mph
RISK CATEGORY	--	I
WIND LOAD IMPORTANCE FACTOR	I <sub>w</sub>	1.00
WIND EXPOSURE CATEGORY	--	B
INTERNAL PRESSURE COEFFICIENT	C <sub>pi</sub>	±0.18



SNOW DESIGN LOADS		
DESCRIPTION	SYMBOL	VALUE
GROUND SNOW LOAD	P <sub>g</sub>	25 PSF
SNOW EXPOSURE FACTOR	C <sub>e</sub>	1.0
SNOW LOAD IMPORTANCE FACTOR	I <sub>s</sub>	1.0
THERMAL FACTOR	C <sub>t</sub>	1.0
SNOW SLOPE FACTOR	C <sub>s</sub>	1.0
ROOF SNOW LOAD (I)	P <sub>r</sub>	20 PSF



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GRANGE ESTATE NECESSARY ROOF REPLACEMENT

143 WYRTLE AVENUE  
 HAVERFORD, PA 19003

STRUCTURAL GENERAL NOTES

TOWNSHIP OF HAVERFORD  
 1014 BARBY ROAD  
 HAVERFORD, PA 19003

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1	01/10/25	ISSUED FOR BID	GRK
2	01/08/25	REVISED PER DELO PER COMMENTS	GRK
1	02/12/24	REVISED PER DELO PER COMMENTS	GRK

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 APPROVED BY: RES

**S001**  
 SHEET 3 OF 7







**1** SOUTH FACADE

SCALE: N.T.S.



**2** SOUTH FACADE

SCALE: N.T.S.

## HISTORIC PICTURES

### SHUTTER REPAIR/INSTALLATION NOTES:

1. THE WINDOW OPENINGS ON THE SOUTH ELEVATION HAVE WOOD SHUTTER SYSTEMS INSTALLED FOR EACH OPENING. THE SHUTTER SYSTEM FOR THE SOUTHEAST OPENING IS INTACT. HOWEVER, THE SHUTTER SYSTEM FOR THE SOUTHWEST OPENING WAS DAMAGED. PORTIONS OF THIS SHUTTER SYSTEM WERE SALVAGED AND REMAIN ON-SITE (SEE PHOTO).
2. THE CONTRACTOR SHALL BE AWARE THAT THE EXISTING PAINT ON VARIOUS WOOD COMPONENTS ON THE BUILDING SHALL BE ASSUMED TO BE LEAD PAINT. THIS MATERIAL SHALL BE LEGALLY DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
3. THE SCOPE OF WORK ASSOCIATED WITH THE SHUTTER SYSTEM SHALL INCLUDE:
  - a. EVALUATION OF THE EXISTING SHUTTER SYSTEM IN THE SOUTHEAST OPENING AND REPAIR/REPLACEMENT OF ANY ROTTED, DAMAGED, OR INOPERABLE COMPONENT OF THE SYSTEM, INCLUDING ANY WOOD COMPONENT AND ALL HINGES AND LOCKING MECHANISMS.
  - b. RECONSTRUCTION OF THE SHUTTER SYSTEM FOR THE SOUTHWEST WINDOW TO MATCH THE SIZE, SHAPE, AESTHETICS AND OPERATION OF THE EXISTING SHUTTER SYSTEM ON THE SOUTHEAST OPENING INCLUDING BUT NOT LIMITED TO: FRAME, HEADER, TRIM, OPERABLE SHUTTERS, HINGES, LOCKING MECHANISMS AND ALL OTHER COMPONENTS NECESSARY TO DUPLICATE THE EXISTING SHUTTER SYSTEM WITHIN THE SOUTHEAST OPENING.
4. PORTIONS OF THE WOOD FROM THE SOUTHWEST SYSTEM HAVE BEEN SALVAGED AND ARE ON SITE. THE CONTRACTOR HAS THE OPTION TO UTILIZE THESE COMPONENTS OR RECONSTRUCT THE ENTIRE SYSTEM WITH NEW COMPONENTS.
5. RECONSTRUCTION OF THE SHUTTER SYSTEM SHALL COMPLY WITH THE FOLLOWING:
  - a. THE FINAL PRODUCT SHOULD BE SUBSTANTIALLY IDENTICAL TO THE EXISTING SHUTTER SYSTEM IN THE SOUTHEAST OPENING INCLUDING SIZE, SHAPE, THICKNESS, TEXTURE, AND DETAILING OF ALL WOOD COMPONENTS INCLUDING: FRAME, SHUTTERS, TRIM PIECES, AND OPERATION INCLUDING THE NUMBER, SIZE, MATERIAL, LOCATION AND STYLE OF HINGES AND LOCKING MECHANISMS.
  - b. THE SPECIES AND THICKNESS OF THE WOOD SHUTTER, FRAME AND SILL SHALL MATCH THE EXISTING.
  - c. ALL WOOD DETAILING AND TRIM PIECES SHALL BE SUBSTANTIALLY IDENTICAL IN SIZE, SHAPE AND LOCATION TO THE EXISTING.
  - d. THE NEW SYSTEM SHALL BE CONSTRUCTED IN THE SAME VERTICAL AND HORIZONTAL PLANE AS THE EXISTING.
  - e. UPON COMPLETION, BOTH SHUTTER SYSTEMS SHALL BE PAINTED WITH 2-COATS OF A HIGH-QUALITY OIL-BASED PAINT IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. COLOR TO BE SELECTED BY OWNER
6. ORIENTATION OF SHUTTER IN EXISTING WINDOW TO BE DOCUMENTED PRIOR TO REMOVAL. REPAIRED SHUTTERS TO BE REINSTALLED IN THE SAME ORIENTATION AS CURRENTLY EXISTS. (SEE IMAGE 6 FOR SHUTTER ORIENTATION).



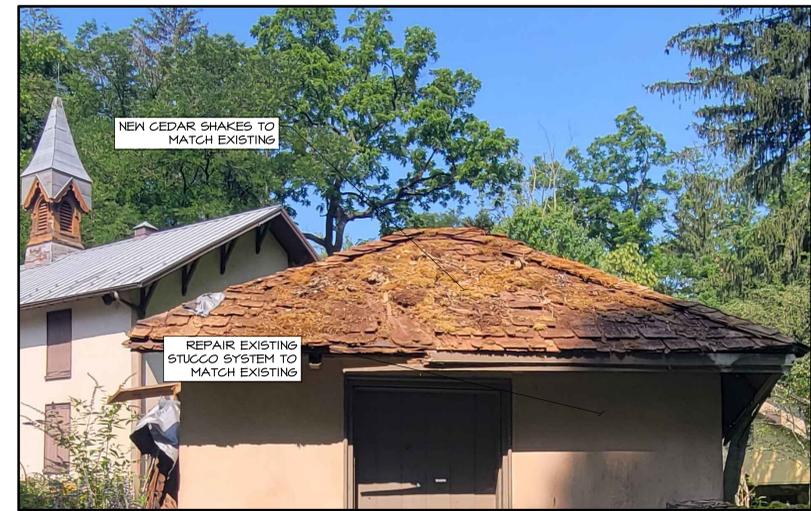
**3** EXISTING SOUTHEAST WINDOW SHUTTER

SCALE: N.T.S.



**4** EXISTING SHUTTER SYSTEM

SCALE: N.T.S.



**5** EXISTING CEDAR SHAKES + STUCCO

SCALE: N.T.S.

## SHUTTER REPAIR



ALL DIMENSIONS MUST BE REVIEWED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

GRANGE ESTATE NECESSARY ROOF REPLACEMENT

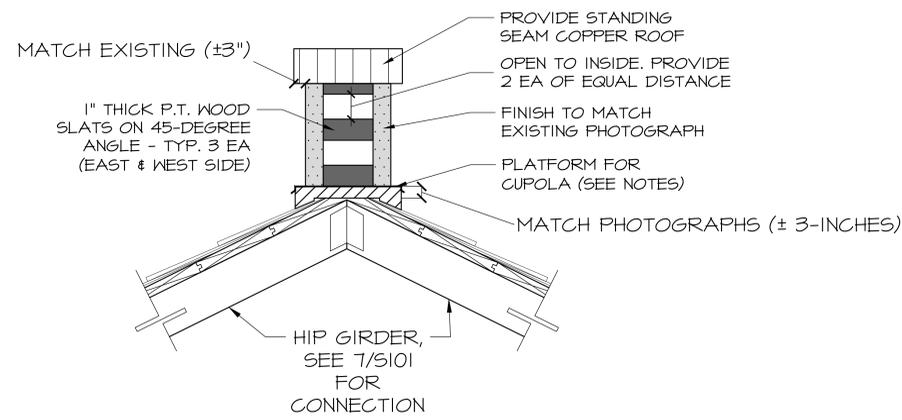
PHOTOS & SHUTTER REPAIR NOTES

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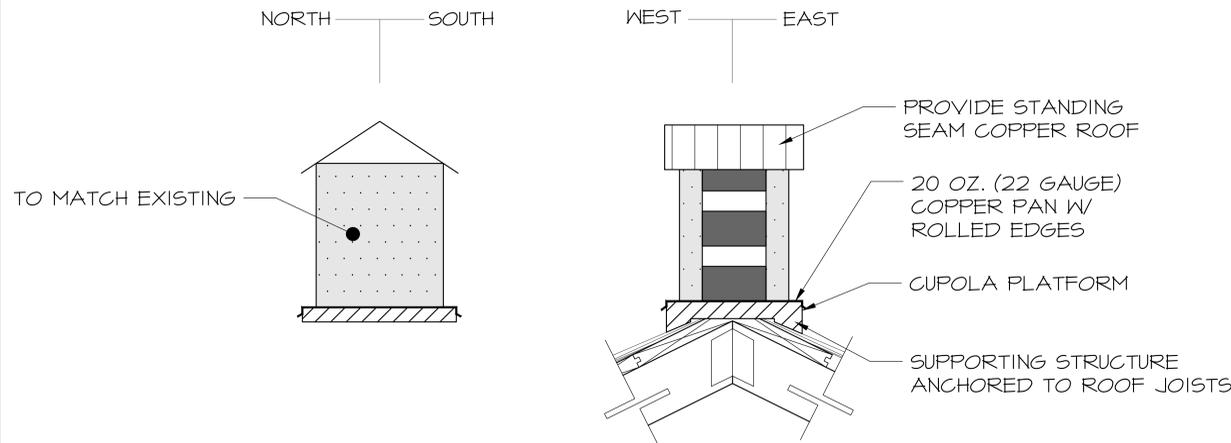
PROJECT: HAVTT21842  
 DATE: 02/12/2024  
 DRAWING SCALE: AS NOTED  
 DRAWN BY: JMF  
 APPROVED BY: RES

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 PROJECT: GRANGE ESTATE NECESSARY ROOF REPLACEMENT  
 FILE: STYLE PENNONI25.dwg



# 1 TYPICAL DETAIL

SCALE: N.T.S.

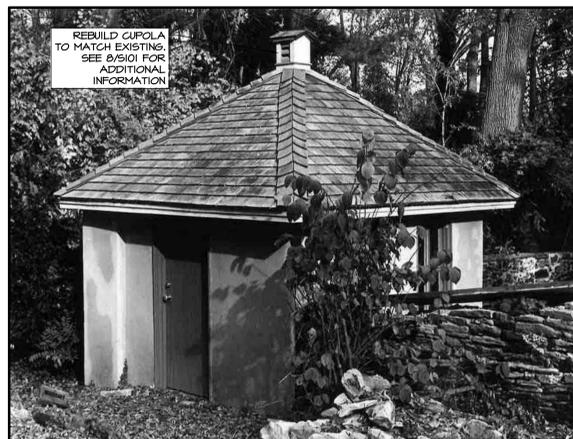


# 2 ORIENTATION

SCALE: N.T.S.

# 1 CUPOLA DETAIL

SCALE: N.T.S.



## 2 EXISTING CUPOLA

SCALE: N.T.S.



## 3 EXISTING CUPOLA EAST/WEST ORIENTATION

SCALE: N.T.S.



## 4 EXISTING CUPOLA NORTH/SOUTH ORIENTATION

SCALE: N.T.S.

## CUPOLA NOTES:

1. THE INTENT IS TO RECONSTRUCT THE CUPOLA AS CLOSE AS POSSIBLE TO THE EXISTING BASED ON THE PORTIONS OF THE STRUCTURE SALVAGED AND HISTORICAL PHOTOS.
2. THE CONTRACTORS PRICE SHALL INCLUDE ALL WORK TO VERIFY EXISTING CONDITIONS AS CLOSELY AS POSSIBLE, INCLUDING SALVAGING OF THE REMAINING PORTIONS OF THE EXISTING CUPOLA FROM THE DEBRIS, OBTAINING AS MANY MEASUREMENTS FROM THE EXISTING STRUCTURE REMAINING AS POSSIBLE PRIOR TO DEMOLITION, REVIEW OF HISTORICAL PHOTOGRAPHS, AND CONSTRUCTION OF A MOCKUP FOR REVIEW/APPROVAL BY THE TOWNSHIP/GRANGE PERSONNEL.
3. THE NEW CUPOLA SHALL MATCH AS CLOSE AS POSSIBLE THE EXISTING HISTORICAL PHOTOS INCLUDING SCALE, MATERIALS AND COLORS, UNLESS OTHERWISE INDICATED.
4. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A FULL-SCALE MOCK-UP OF THE CUPOLA. THE INTENT OF THIS MOCK-UP IS TO DETERMINE THE OVERALL SCALE/SIZE OF THE CUPOLA, THICKNESS/ANGLE OF THE SLATS, AND THE EXTENT OF THE OPEN AREAS ON EITHER SIDE. THE MOCKUP SHALL BE CONSTRUCTED OF MINIMUM 3/4-INCH PLYWOOD AND FULLY DEPICT ALL ASPECTS OF THE NORTH AND WEST SIDES, AND THE ROOF.
5. VISIBLE EXTERIOR COMPONENTS OF THE CUPOLA SHALL BE CONSTRUCTED OF No 1 WESTERN RED CEDAR WITH AN "A" APPEARANCE GRADE. ALL OTHER STRUCTURAL NON-VISIBLE COMPONENTS SHALL BE CONSTRUCTED OF No. 1 OAK OR CYPRESS.
6. CUPOLA BASE SHALL BE ATTACHED TO ROOF JOISTS VIA VERTICAL SUPPORTS ON THE INTERIOR OF THE STRUCTURE DOWN THROUGH THE OPENING AT THE PEAK OF THE ROOF- SEE PICTURES.
7. INSTALL FLEXIBLE SELF-ADHERING WATERPROOFING MEMBRANE AROUND THE ENTIRE PERIMETER OF THE FRAMING ASSOCIATED WITH THE PLATFORM OF THE STRUCTURE. COUNTERFLASH SIDES OF SUPPORTING PLATFORM WITH WATERPROOF MEMBRANE. MEMBRANE. INSTALL FINISH TRIM OVER MEMBRANE.
8. THE CUPOLA IS AN OPERATING VENT. INSTALL 3/4-INCH 16-GAUGE STAINLESS STEEL DIAMOND MESH LATH ON THE INSIDE OF THE NORTH AN SOUTH SIDES OF THE STRUCTURE TO PREVENT ENTRY OF ANIMALS. SECURE LATH WITH 1-INCH STAINLESS STEEL ROOFING NAILS, OR APPROVED EQUAL, AT 6-INCH CENTERS AROUND ENTIRE PERIMETER.
9. ALL WOOD COMPONENTS OF THE CUPOLA TO BE PAINTED WITH 2-COATS OF A HIGH-QUALITY OIL-BASED PAINT. COLORS TO MATCH AS CLOSE AS POSSIBLE COLORS DEPICTED ON HISTORICAL PHOTOGRAPHS.



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GRANGE ESTATE NECESSARY ROOF REPLACEMENT  
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HAVERTOWN, PA 19083

CUPOLA PLAN

TOWNSHIP OF HAVERFORD  
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APPROVED BY	RES

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