**HOUSING AUTHORITY OF BERGEN COUNTY**
ONE BERGEN COUNTY PLAZA, 2ND FLOOR
HACKENSACK, N.J. 07601
**PHONE:** 201-336-7624
**FAX:** 201-336-7625
**WWW.HABCNJ.ORG**

# RFP ADDENDUM NOTICE

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| To: | All Prospective Bidders |
| Addendum Number: | No. 1 |
| Issued by: | Erick Martinez, Purchasing Agent |
| Date: | July 7, 2021 |
| Project/Service Name: | DHW Replacement at Highland View Apartments |
| Bid Dated: | June 27, 2021 |
| Bid Number: | HABC 2021.07.14.02 |

The above referenced project/service is hereby amended as set forth below. Bidders MUST acknowledge receipt of this addendum, by completing, signing, and submitting with their Bid the *Acknowledgment of Receipt of Addenda Form.*

Description of Addendum:

The following constitutes Addendum No. 1 to the above referenced solicitation.

The addendum is in response to a bidder's request for *ENGINEERING DRAWINGS*. Part ONE of this addendum provides the ENGINEERING DRAWINGS, which SHALL become part of specifications dated June 25, 2021.

**Original Bid Submission Due Date: July 14, 2021, at 9:30 A.M. shall remain UNCHANGED.**

***PART ONE:***

## *SEE ENGINEERING DRAWINGS ON ATTACHED PAGES*

**It is the sole responsibility of the Bidder to be knowledgeable of all of the additions, deletions, clarifications and modifications to this Bid and/or the Standard Terms and Conditions relative to this Bid as set forth in all addenda.**

**Except as provided herein, all terms and conditions of the solicitation and any previous addenda remain unchanged and in full force and effect. Please note that the above-mentioned addenda shall become part of the specifications by reference hereto, having the same binding effect as provisions of the original specifications.**

**The Housing Authority of Bergen County's interpretation of the meaning and intent of these Bid documents, specifications and addenda items shall be final and conclusive.**

**END OF ADDENDUM NO. 1**

# HOT WATER HEATER REPLACEMENT
AT
# HIGHLAND VIEW APARTMENTS
300 HIGHLAND AVE, PALISADES PARK
NEW JERSEY 07650

HOUSING AUTHORITY OF BERGEN COUNTY
ONE BERGEN COUNTY PLAZA, 2ND FLOOR
HACKENSACK, NJ 07601

## GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE NEW JERSEY STATE ENERGY CODE, INTERNATIONAL MECHANICAL CODE, ASHRAE GUIDELINES, SMACNA, BERGEN COUNTY GUIDELINES, NEC, NATIONAL STANDARD PLUMBING CODE, AND ALL OTHER APPLICABLE CODES, ORDINANCES, ETC. FOR NJ STATE AND THE LOCAL AUTHORITY HAVING JURISDICTION.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE AND FAMILIARIZING HIMSELF WITH THE EXISTING CONDITIONS AND SCOPE OF THE WORK PRIOR TO SUBMITTING BIDS AND COMMENCING WORK, AND INCLUDE ALL SUCH NECESSARY WORK BASED ON THIS SITE FAMILIARIZATION IN THIS BID.
3. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL SAFE WORKING CONDITIONS AND SHALL OBSERVE ALL SAFETY REQUIREMENTS ESTABLISHED BY JURISDICTIONAL AGENCIES AND THE OWNER. WHERE CONFLICTS EXIST, THE MORE STRINGENT REQUIREMENT SHALL APPLY. CARE SHALL BE EXERCISED TO AVOID ENDANGERING PERSONNEL OR STRUCTURES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEAN & METHODS, PROCEDURES AND JOB SITE CONDITIONS INCLUDING SAFETY. CONSTRUCTION SHALL BE PERFORMED IN SUCH A MANNER TO PROTECT WORKMEN, OCCUPANTS AND THE PUBLIC FROM INJURY AND ADJOINING PROPERTY SHALL BE PROTECTED FROM DAMAGE BY USE OF SCAFFOLDING, UNDERPINNING OR OTHER APPROVED METHOD. THE CONTRACTOR SHALL REPAIR ANY AND ALL DAMAGE CAUSED DURING OR RESULTING FROM HIS OPERATIONS IN KIND TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
5. CONTRACTOR SHALL MAINTAIN THE JOB SITE IN A CLEAN, DEBRIS FREE CONDITION. THE DUST RESULTING FROM REMOVALS SHALL BE CONTROLLED SO AS TO PREVENT ITS SPREAD TO OCCUPIED PORTIONS OF THE BUILDING AND TO AVOID CREATION OF A NUISANCE IN THE SURROUNDING AREA.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS, FEES, APPROVALS, ETC. PRIOR TO COMMENCING WORK AND SHALL SECURE CERTIFICATE OF OCCUPANCY UPON COMPLETION OF WORK.
7. CONTRACTOR SHALL BE RESPONSIBLE TO DISPOSE OF ALL DEMOLISHED MATERIAL OFF SITE IN AN APPROVED MANNER. THE OWNER SHALL BE CONSULTED PRIOR TO DISPOSAL OF ANY SALVAGED OR EXCESS MATERIALS AT THE COMPLETION OF THE PROJECT.
8. UPON COMPLETION OF WORK, ALL EXCESS MATERIAL, DEBRIS, ETC. SHALL BE REMOVED AND THE WORK AREA SHALL BE LEFT CLEAN TO THE OWNER'S SATISFACTION.
9. ALL WORK SHALL BE SCHEDULED IN COMPLIANCE WITH THE OWNER'S REQUIREMENTS FOR THE USE OF THE EXISTING FACILITY.
10. CONTRACTOR SHALL FURNISH ALL EQUIPMENT THAT MAY BE REQUIRED TO PERFORM THE WORK INDICATED IN A SAFE AND ORDERLY MANNER, AND AS NECESSARY FOR A PROPER OPERATIONAL SYSTEM.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION AND TEMPORARY SUPPORT OF ANY UTILITIES ENCOUNTERED DURING THE COURSE OF HIS WORK AND TO ENSURE THE OWNER'S FACILITY TO BE OPERATIONAL.
12. CONTRACTOR SHALL REVIEW DRAWINGS AND FIELD VERIFY ALL DIMENSIONS, CONDITIONS AND ELEVATIONS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES AND ADDRESS ALL QUESTIONS TO ARCHITECT/ENGINEER PRIOR TO COMMENCING WORK.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING, PATCHING, FILLING AND CLEANING UPON COMPLETION OF WORK.
14. CONTRACTOR SHALL NOT SCALE DRAWINGS FOR DIMENSIONS. ALL WRITTEN OR DIMENSIONED INFORMATION TAKES PRECEDENCE OVER THE DRAWING.
15. CONTRACTOR SHALL SUBMIT, WHERE REQUIRED BY THE ARCH/ENGR, SHOP DRAWINGS AND SUBMITTALS FOR APPROVAL PRIOR TO THE START OF FABRICATION OF THOSE ITEMS. THIS INCLUDES ALL EQUIPMENT, SCHEMATIC DUCTWORK AND PIPING LAYOUT, BOILER ROOM LAYOUT, ETC. CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL EQUIPMENT ETC WILL FIT (WITH PROPER MAINTENANCE CLEARANCES) AT ALL LOCATIONS. REVIEW OF SHOP DRAWINGS/SUBMITTALS BY THE ARCH/ENGR DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING THE CURRENT MODEL NUMBERS, TYPE, & FEATURES OF ALL EQUIPMENT'S & MATERIALS.
16. CONTRACTOR SHALL PROVIDE THE OWNER AND ARCHITECT WITH CERTIFICATES OF INSURANCE PRIOR TO STARTING THE WORK.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING AND BRACING OF EXISTING STRUCTURES AS NEEDED TO COMPLETE THE NEW WORK.
18. ALL MANUFACTURER'S MATERIALS, COMPONENTS, FASTENERS, ASSEMBLIES, ETC. SHALL BE HANDLED AND INSTALLED IN ACCORDANCE TO WITH MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS. WHERE BRAND NAMES AND MANUFACTURED PRODUCTS ARE CALLED FOR, APPROVED EQUALS WHICH MEET APPLICABLE STANDARDS AND SPECIFICATIONS MAY BE SUBSTITUTED WITH WRITTEN PERMISSION OF THE ARCHITECT AND THE OWNER. WHENEVER BRAND NAMES OR SPECIFIC PRODUCT SYSTEMS ARE INDICATED IT SHALL BE CLEARLY UNDERSTOOD THAT SUCH IDENTIFICATION IS FOR THE PURPOSE OF ILLUSTRATING THE TYPE OF PRODUCT AND DEGREE OF QUALITY DESIRED. SUCH IDENTIFICATION IN NO WAY PRECLUDES THE CONTRACTOR FROM USING PRODUCTS OF OTHER MANUFACTURERS WHICH CAN BE SHOWN IN ADVANCE TO BE OF LIKE AND OF EQUAL OR BETTER QUALITY.
19. ALL CHANGES SHALL BE REQUESTED IN WRITING AND MAY ONLY BE APPROVED IN WRITING BY THE ARCHITECT/ENGINEER AND THE OWNER PRIOR TO ANY CHANGES BEING MADE.
20. THE ARCHITECT HAS THE RIGHT TO REJECT ANY PORTION OF WORK THAT IS POORLY INSTALLED, DOES NOT MEET INDUSTRY STANDARD, UNAUTHORIZED, OR WORK DONE CONTRARY TO THE THE INTENT OF THE CONTRACT DOCUMENTS. SUCH WORK SHALL BE REPLACED, REPAIRED OR REMOVED AT THE CONTRACTOR'S EXPENSE.
21. CONTRACTOR SHALL GUARANTEE ALL HIS WORK AND THE WORK OF HIS SUBCONTRACTORS FOR A PERIOD TWO (2) YEARS AFTER RECEIVING FINAL ACCEPTANCE AND DO ALL REPAIR WORK AND REPLACEMENT AS NECESSARY DURING THAT PERIOD AT THE CONTRACTOR'S EXPENSE.
22. IN NO EVENT SHALL STRUCTURAL MEMBERS BE CUT OR DRILLED WITHOUT THE WRITTEN APPROVAL OF A LICENSED STRUCTURAL ENGINEER.
23. CONTRACTOR SHALL PROVIDE SAFE AND SANITARY CONDITIONS WHERE DEMOLITION AND WRECKING OPERATIONS ARE BEING CARRIED ON. WORK SHALL BE EXECUTED IN SUCH A MANNER THAT HAZARD FROM FIRE, POSSIBILITY OF INJURY, DANGER TO HEALTH AND CONDITIONS WHICH MAY CONSTITUTE A PUBLIC NUISANCE SHALL BE MINIMIZED.
24. ENGINEER/OWNER MAY ASK THE CONTRACTOR TO PROVIDE DETAILED SHOP DRAWINGS & SUBMITTALS OF ANY/ALL PARTS OF THIS PROJECT WHICH THE ENGINEER/OWNER DEEMS NECESSARY FOR.
25. CONTRACTOR TO PROVIDE A LAMINATED SHEET INDICATING FIRE PUMP MANUFACTURER, MODEL #, SERIAL #, GPM, HEAD, MOTOR HP, & INSTALLER'S CONTACT DETAILS ON A WALL NEAR THE FIRE PUMP & ALSO INCLUDE THE INFORMATION ON O&M MANUALS.
26. CONTRACTOR TO NOTE THAT WHENEVER THE OUTDOOR TEMPERATURE IS BELOW 50°F, UNINTERRUPTED HEATING SHOULD BE PROVIDED AT ALL BOILER ROOMS IN THIS PROJECT DURING OCCUPIED HOURS. WORK SHOULD BE SCHEDULED ACCORDINGLY.

## SYMBOLS

NOT TO SCALE

- = POINT OF CONNECTION OF NEW PIPING/DUCTWORK TO EXISTING
- = POINT OF DISCONNECTION OF NEW PIPING/DUCTWORK TO EXISTING
- = SHUT OFF VALVE (SUPPLY SIDE)
- = BALANCING VALVE (RETURN SIDE)
- = CHECK VALVE
- = TWO-WAY CONTROL VALVE
- = BALL VALVE
- = STRAINER
- = UNION
- = PRESSURE GAUGE
- = TEMPERATURE GAUGE
- = INDICATES EXISTING TO BE REMOVED
- = 6" HIGH CONCRETE HOUSEKEEPING PAD (TYP. FOR ALL FLOOR MOUNTED EQUIPMENT)
- GAS = GAS PIPING
- = DOMESTIC HOT WATER
- = DOMESTIC COLD WATER
- = HOT WATER SUPPLY
- = HOT WATER RETURN
- = CONDENSATE DRAIN
- = PIPE TURN UP
- = PIPE TURN DOWN
- # = REVISION

## DRAWING INDEX



## H.V.A.C. GENERAL NOTES

1. PROCURE AND PAY ALL NECESSARY PERMITS AND LICENSES REQUIRED TO CARRY OUT THE WORK SHOWN. OBTAIN AND PAY FOR ALL FEES.
2. COMPLY WITH ALL FEDERAL, STATE AND MUNICIPAL LAWS AND CODES, ORDINANCES, RULES AND REGULATIONS OF HEALTH, PUBLIC OR OTHER AUTHORITIES CONTROLLING OR LIMITING THE METHODS, MATERIALS TO BE USED OR ACTIONS OF THOSE EMPLOYED.
3. GUARANTEE H.V.A.C. SYSTEMS FOR A PERIOD OF ONE YEAR FROM OWNER'S ACCEPTANCE TO BE FREE FROM DEFECTS AND REPAIR OR REPLACE, AT NO COST TO OWNER, FAILURES OR DEFECTS.
4. H.V.A.C. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL HIS DEBRIS.
5. BALANCE WATER SYSTEMS TO QUANTITIES INDICATED. CONTRACTOR TO SUBMIT SIX (6) SETS OF WATER AND UNIT BALANCING REPORT TO ARCH./ENGR./OWNER PRIOR TO FINAL ACCEPTANCE OF THE SYSTEM.
6. BIDDERS FOR THIS WORK SHALL VISIT THE PREMISES AND CAREFULLY EXAMINE ALL EXISTING CONDITIONS BEFORE SUBMITTING BIDS. NOT ALL EXISTING CONDITIONS HAVE BEEN IDENTIFIED ON DRAWINGS. CONTRACTOR SHALL NOTIFY ARCH. & ENGR. OF ALL DISCREPANCIES PRIOR TO SUBMITTING BID.
7. ALL BIDDERS SHALL ALSO FAMILIARIZE THEMSELVES WITH THE MEANS OF ENTRANCE AND EXIT AT THE PROPERTY AND ALL OTHER INFORMATION NECESSARY TO PROPERLY CARRY OUT THE WORK.
8. THE CONTRACTOR SHALL, WITH THE APPROVAL OF THE ENGINEER AND WITHOUT ADDITIONAL COST TO THE OWNER, MAKE ALL NECESSARY CHANGES OR MODIFICATIONS TO LOCATIONS AS MAY BE NECESSARY TO SUIT REQUIREMENTS AND CONDITIONS FOR THE PROPER AND CONVENIENTLY ACCESSIBLE LOCATIONS OF ALL PARTS OF EACH SYSTEM.
9. SMALL DETAILS ARE NOT USUALLY SHOWN OR SPECIFIED BUT ALL MATERIALS & COMPONENTS NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OR WORK SHALL BE FURNISHED AND INSTALLED AT NO ADDITIONAL COST.
10. THE CONTRACTOR SHALL NOTE THAT ALL SERVICE CONNECTIONS MAY NOT BE SHOWN IN TRUE POSITIONS. EACH BIDDER IS CAUTIONED, THEREFORE, TO VERIFY SAME WITH FIELD CONDITIONS.
11. CONTRACTOR SHALL CHECK FOR INTERFERENCE AND VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OR INSTALLATION OF PIPING.
12. IF AN ITEM OF EQUIPMENT OTHER THAN THE ITEM(S) SPECIFIED IS APPROVED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ADDITIONAL COST ARISING OUT OF ADDITIONAL OR CHANGED GENERAL CONSTRUCTION AND MECHANICAL WORK REQUIRED TO ACCOMMODATE THE SUBSTITUTED EQUIPMENT.
13. ALL EQUIPMENT INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS DIRECTIONS AND RECOMMENDATIONS.
14. PROVIDE ONE SET OF SPARE FILTERS FOR ALL INSTALLED HV/HVAC UNITS.
15. PROVIDE TWO YEAR MAINTENANCE SERVICE FOR ALL INSTALLED HV/HVAC/MECHANICAL SYSTEMS. THIS INCLUDES A MINIMUM OF THREE PERIODIC SERVICE VISITS TO INSPECT, TEST & CHECK ALL COMPONENTS OF HVAC/HV UNITS AND ANY ADDITIONAL VISITS REQUIRED IF ANY HVAC/HV UNIT FAILS. ALL NECESSARY BELT ALIGNMENTS, PROPER OPERATIONS OF ALL DAMPERS, ETC IS INCLUDED IN THIS SCOPE OF WORK.
16. PROVIDE FIRE STOPPING AROUND ALL OPENINGS FOR DUCT, PIPING, CONDUIT, ETC. PENETRATIONS THROUGH CORRIDORS, SLABS AND OTHER RATED PARTITIONS.
17. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION AND RESTORATION OF AREAS OF MECHANICAL REMOVALS.
18. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONTAINER SERVICES AND LABOR TO KEEP THE BUILDING FREE OF DEBRIS.
19. CONTRACTOR TO THOROUGHLY CLEAN ALL EXISTING DUCTWORK WHICH IS TO REMAIN (TOILET EXHAUST, SUPPLY, RETURN AND OUTDOOR AIR). PROVIDE SIX (6) COPIES OF REPORT INCLUDING COLOR PHOTOS INDICATING DUCTWORK CONDITION BEFORE & AFTER CLEANING.
20. PROVIDE NEW VOLUME DAMPERS IN EXISTING DUCTWORK (SUPPLY/RETURN/EXHAUST) WHICH IS TO BE REUSED WHERE THERE ARE NO EXISTING VOLUME DAMPERS (TYPICAL FOR ALL).
21. CONTRACTOR TO NOTE THAT BOTH DWGS & SPECS ARE COLLECTIVELY A PART OF BID REQUIREMENTS. IN CASE OF ANY DIFFERENCES BETWEEN CARIOUS DWGS OR BETWEEN DWGS & SPECS, THE MOST STRINGENT REQUIREMENTS WILL PREVAIL.
22. CONTRACTOR TO SUBMIT SIX (6) SETS OF OPERATION & MAINTENANCE MANUALS, INCLUDING A SUMMARY SHEET OF ALL EQUIPMENT MFRS, MODEL #s, SERIAL #s, SHOP DRAWING SUBMITTALS, WARRANTY INFORMATION, O&M MANUALS, PROJECT INFORMATION, CONTACT DETAILS & AS-BUILT DRAWINGS.
23. CONTRACTOR TO PROVIDE SIX (6) SETS AND AN ELECTRONIC COPY OF AS-BUILT DRAWINGS OF THE ENTIRE SYSTEM.
24. PROVIDE PROPER IDENTIFICATION TAGS, ARROWS, AND LABELS FOR ALL EQUIPMENT INCLUDING BOILERS, PUMPS, PIPING, VALVES, ELECTRICAL PANELS, ETC.
25. CONTRACTOR TO PROVIDE A MINIMUM OF TWO (2) TRAINING SESSIONS (TWO HOURS EACH) THAT ARE TO BE VIDEOTAPED FOR THE OWNERS USE, TO OWNER'S MAINTENANCE STAFF ON PROPOER OPERATION, MAINTENANCE & COMMON TROUBLE-SHOOTING GUIDELINES.

## ABBREVIATIONS

| | | | | | |
|---|---|---|---|---|---|
| & | = | AND | HVAC | = | HEAT/VENT/AIR COND |
| ø | = | DIAMETER OR ROUND | HW | = | HOT WATER |
| | | | HWC | = | HOT WATER COIL |
| AD | = | ACCESS DOOR | HWH | = | HOT WATER HEATER |
| ADD'L | = | ADDITIONAL | HWR | = | HOT WATER RETURN PIPING |
| ADJ | = | ADJUSTABLE | HWS | = | HOT WATER SUPPLY PIPING |
| AHU | = | AIR HANDLING UNIT | HX | = | HEAT EXCHANGER |
| AS-# | = | AIR SEPARATOR | | | |
| | | | ID | = | INSIDE DIAMETER (DIM) |
| B-# | = | BOILER | IN | = | INCH |
| BDD | = | BACK DRAFT DAMPER | INSUL | = | INSULATION |
| BLDG | = | BUILDING | | | |
| BOD | = | BOTTOM OF DUCT | MAX | = | MAXIMUM |
| | | | MD | = | MOTORIZED DAMPER |
| CD | = | CONDENSATE DRAIN | MECH | = | MECHANICAL |
| CLG | = | CEILING | MEP | = | MECH/ELEC/PLUMBING |
| CTR | = | CENTER | MFR | = | MANUFACTURER |
| | | | MIN | = | MINIMUM |
| DCW | = | DOMESTIC COLD WATER | MISC | = | MISCELLANEOUS |
| DET | = | DETAIL | | | |
| DHW | = | DOMESTIC HOT WATER | N.A. | = | NOT APPLICABLE |
| DHWR | = | DOMESTIC HOT WATER RETURN | NTS | = | NOT TO SCALE |
| DIA | = | DIAMETER | | | |
| DIM | = | DIMENSION | OA | = | OUTSIDE AIR |
| DN | = | DOWN | OC | = | ON CENTER |
| DWG | = | DRAWING | OD | = | OUTSIDE DIAMETER |
| | | | | | |
| EA | = | EACH | P-# | = | PUMP |
| ELEC | = | ELECTRIC | | | |
| ENGR | = | ENGINEER (ING) | R | = | RISER |
| EQUIP | = | EQUIPMENT | RAD | = | RADIUS |
| ET | = | EXPANSION TANK | RM | = | ROOM |
| EXH | = | EXHAUST | | | |
| (E)/EXIST | = | EXISTING | SD | = | SMOKE DETECTOR |
| | | | SECT | = | SECTION |
| FAI | = | FRESH AIR INTAKE | SPEC | = | SPECIFICATION |
| FC | = | FLEXIBLE CONNECTION | STD | = | STANDARD |
| FD | = | FIRE DAMPER | | | |
| FF | = | FINISHED FLOOR | TOD | = | TOP OF DUCT |
| FLR | = | FLOOR | TYP | = | TYPICAL |
| FSD | = | FIRE/SMOKE DAMPER | | | |
| | | | V | = | VENT PIPING |
| GALV | = | GALVANIZED | VD | = | VOLUME DAMPER |
| GPM | = | GALLONS PER MINUTE | VG | = | GAS VENT LINE |
| | | | VIF | = | VERIFY IN FIELD |
| | | | W/ | = | WITH |
| | | | W/O | = | WITHOUT |

## H.V.A.C. MATERIALS

EQUIPMENT:

- REFER TO SCHEDULES FOR UNIT MANUFACTURER, SIZE, AND CAPACITY DATA.

PIPING:

- HOT AND COLD WATER PIPING ABOVE GRADE SHALL BE TYPE "L" COPPER WITH WROUGHT COPPER SOLDER FITTINGS, SILVABRITE 100 LEAD-FREE SOLDER. HOT AND COLD WATER PIPING BELOW GRADE SHALL BE TYPE "K" COPPER WITH NO FITTINGS.
- GAS PIPING ABOVE GRADE SHALL BE BLACK STEEL SCHEDULE #40 WITH MALLEABLE IRON SCREWED FITTING. INDOOR GAS PIPING SHALL BE PAINTED YELLOW W/ TWO (2) COATS PRIMER AND ONE (1) COAT PAINT

INSULATION:

- ALL HOT AND COLD WATER PIPING SHALL BE INSULATED WITH FIBERGLASS PIPE INSULATION WITH ASJ JACKET.

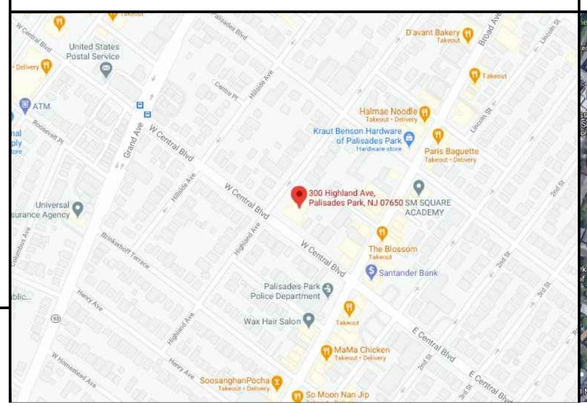
PIPE SUPPORTS:

- INSTALL THE FOLLOWING PIPE ATTACHMENTS:
- ADJUSTABLE STEEL CLEVIS HANGERS FOR INDIVIDUAL HORIZONTAL PIPING LESS THAN 20 FEET LONG.
- ADJUSTABLE ROLLER HANGERS AND SPRING HANGERS FOR INDIVIDUAL HORIZONTAL PIPING 20 FEET OR LONGER.

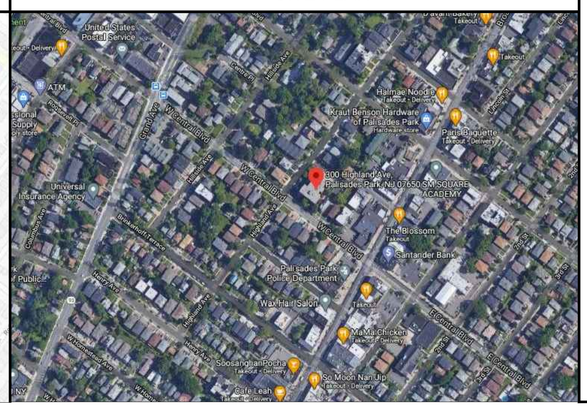
VALVES:

- ISOLATION VALVES: SHALL BE BALL VALVES
- BALANCING VALVES: SHALL BE GLOBE VALVES.
- NOTE: NO BUTTERFLY VALVES ARE TO BE USED ON THIS PROJECT.
- MANUFACTURERS:
  1. TYPE I, CAST-IRON, GATE VALVES:
     a. CINCINNATI VALVE CO.
     b. CRANE CO.; CRANE VALVE GROUP; CRANE VALVES.
     c. CRANE CO.; CRANE VALVE GROUP; JENKINS VALVES.
     d. CRANE CO.; CRANE VALVE GROUP; STOCKHAM DIV.
     e. GRINNELL CORPORATION.
     f. HAMMOND VALVE.
     g. KITZ CORPORATION OF AMERICA.
     h. LEGEND VALVE & FITTING INC.
     i. MILWAUKEE VALVE COMPANY
     j. NIBCO INC.
     k. POWELL, WM. CO.
     l. RED-WHITE VALVE CORP.
     m. WALWORTH CO.
     n. WATTS INDUSTRIES, INC.

## LOCATION MAP




## SITE PLAN





NJ Certificate of Authorization

| | |
|---|---|
| Eng'r. Nos. | 24GA27937500 |
| Arch. Nos. | 21AC000012400 |
| Date | 6/4/2021 |
| Checked | MAM |
| Drawn | LLS |

THOMAS WIGHARD, P.E.
The PROFESSIONAL ENGINEER
License No. NJ24GE04901100

LAN ASSOCIATES
engineering • planning • architecture • surveying
445 GODWIN AVENUE, MIDLAND PARK, N.J. 07432 (201)447-6400


**Revisions:**

TITLE SHEET
BERGEN COUNTY HOUSING AUTHORITY
DOMESTIC HOT WATER HEATER REPLACEMENT AT
HIGHLAND VIEW APARTMENTS
300 HIGHLAND AVE, PALISADES PARK, NJ 07650

Job No. 2.2591.61

File No. 259161P201

P-1

## Plumbing General Notes

1. PLUMBING CONTRACTOR SHALL VISIT JOB SITE AND NOTE ALL EXISTING CONDITIONS TO BE MET BEFORE SUBMITTING BID. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND SHOW THE INTENT OF WORK.
2. PLUMBING CONTRACTOR TO PROCURE AND PAY FOR ALL NECESSARY PERMITS AND LICENSES REQUIRED TO CARRY OUT WORK, OBTAIN AND PAY FOR ALL NECESSARY CERTIFICATES OF APPROVAL FOR WORK, AND PAY FOR ANY LEGAL FEES.
3. INSTALLATION TO COMPLY WITH ALL FEDERAL, STATE, MUNICIPAL LAWS, AND ALL CODES, RULES, ORDINANCES, AND REGULATIONS OF HEALTH, PUBLIC OR OTHER AUTHORITIES CONTROLLING OR LIMITING THE METHODS, MATERIALS TO BE USED OR ACTIONS OF THOSE EMPLOYED IN THE WORK
4. PLUMBING CONTRACTOR TO PROVIDE TEMPORARY WATER. OWNER TO PAY FOR WATER CONSUMED.
5. PIPE INSTALLATION AS FOLLOWS:
   - 5.A. ALL PIPING TO BE PITCHED TO LOW POINTS WITH DRAIN VALVES, SOIL, STORM, AND WASTE TO BE SLOPED @ 1/8" PER FOOT MIN.
   - 5.B. SLEEVE PIPING THAT PASSES THROUGH WALLS
   - 5.C. PROVIDE ROD HANGERS WITH CLEVIS PIPE SUPPORT PER NATIONAL PLUMBING CODE 2015.
   - 5.D. PROVIDE VALVES REQUIRED FOR COMPLETE CONTROL OF ALL SYSTEMS. STOP VALVES FOR SUPPLY TO ALL FIXTURES TO BE CHROME PLATED WHERE EXPOSED.
   - 5.E. PROVIDE ACCESS DOORS FOR ALL CONCEALED VALVES AND CLEANOUTS
6. PLUMBING CONTRACTOR TO PERFORM ALL TESTING OF THE PLUMBING WORK IN THE PRESENCE OF THE OWNER. PROVIDE ALL APPARATUS, TEMPORARY CONNECTIONS, AND OTHER REQUIREMENTS TO DO SUCH TESTS. ANY DEFECTS, LEAKS, ETC. WILL BE REPLACED AND TEST REPEATED UNTIL TEST REQUIREMENTS ARE MET.
7. SUBMIT SHOP DRAWINGS OF ALL WORK TO BE DONE, EQUIPMENT, AND FIXTURES FURNISHED.
8. PLUMBING CONTRACTOR TO CARRY OUT PERIODIC CLEANING TO REMOVE RUBBISH ETC., TO LEAVE PREMISES FREE FROM DEBRIS, AND DISCARDED MATERIALS. AFTER INSTALLATION, CLEAN FIXTURES, FITTINGS, ETC. AND LEAVE READY FOR USE.

## General Demolition Notes

1. SIZES & LOCATIONS OF EXIST. HVAC/MECH. EQUIPMENT, DUCTWORK, PIPING, AIR INLETS/OUTLETS, ETC. SHOWN ON DRAWINGS ARE BASED ON EXIST. DRAWINGS & SITE OBSERVATIONS, & THEY ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE TO VERIFY EXACT LOCATIONS IN FIELD.
2. NOT ALL EXIST. DUCTWORK, PIPING, VALVES, ETC. ARE SHOWN ON DRAWINGS. VERIFY IN FIELD
3. WHERE APPLICABLE, PATCH ALL OPENINGS ON WALLS AFTER EXIST. EQUIPMENT, DUCTWORK & PIPING, ETC. ARE REMOVED. INFILL & PATCH W/ SUITABLE MATERIALS TO MAINTAIN FIRE RATING & PAINT TO MATCH EXISTING.
4. ANY CUTTING, PATCHING, OR FINISH REPAIR WORK REQUIRED FOR MECHANICAL DEMOLITION IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. CONTRACTOR IS RESPONSIBLE TO DRAIN-DOWN EXIST. HEATING PIPING SYSTEM TO ACCOMMODATE MECHANICAL DEMOLITION & NEW INSTALLATION. RESTORE THE SYSTEM AFTER ALL WORK IS COMPLETE.
6. ALL EXIST. PNEUMATIC AIR TUBING ASSOCIATED W/ DEMOLISHED HVAC/HV EQUIPMENT THAT ARE ACCESSIBLE (ABOVE CLG., EXPOSED IN SPACES, NEAR EQUIPMENT, TO/FROM EXIST. PNEUMATIC CONTROL PANELS, ETC.) SHALL BE REMOVED IN ENTIRETY. EXIST. PNEUMATIC AIR TUBING THAT ARE NOT ACCESSIBLE (IN MASONRY WALLS, ETC.) SHALL BE CAPPED AND ABANDONED IN PLACE. CHECK IN FIELD
7. ALL EXIST. CONTROLS & RELATED WIRING & CONDUITS, ETC. WHICH BECOME OBSOLETE, WHETHER OR NOT SHOWN ON DRAWINGS SHALL BE REMOVED. PATCH WALLS & SOFFIT, ETC. & PAINT TO MATCH EXISTING.
8. CONTRACTOR IS REQUIRED TO PROPERLY PROTECT EXIST. FLOORS, WALLS, FURNITURE, EQUIPMENT, ETC. DURING CONSTRUCTION. ALL DAMAGED ITEMS SHALL BE REPAIRED/REPLACED AT EXPENSE OF THE CONTRACTOR. REMOVE PROTECTIONS AFTER ALL WORK IS COMPLETE & VACUUM CLEAN ALL AREAS TO BE FREE OF DUST & DEBRIS.
9. CONTRACTOR IS REQUIRED TO CAREFULLY REMOVE EXIST. EQUIPMENT, DUCTWORK, ETC. AS NOT TO DISTURB POTENTIAL EXIST. ASBESTOS FLOOR TILES & PLASTER CEILING THROUGHOUT BLDG.

## General Notes

1. ALL WORK SHALL CONFORM TO NEW JERSEY STATE ENERGY CODE, NATIONAL STANDARD PLUMBING CODE, AND ALL OTHER APPLICABLE CODES, ORDINANCES, AND LOCAL AUTHORITY HAVING JURISDICTION.
2. CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH THE EXTENT AND SCOPE OF THE WORK PRIOR TO SUBMITTING BIDS OR COMMENCING WORK.
3. CONTRACTOR SHALL REVIEW DRAWINGS AND FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES, AND ADDRESS ALL QUESTIONS TO ARCHITECT/ENGINEER PRIOR TO COMMENCING WORK.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING UP WORK AREAS UPON COMPLETION OF WORK.
5. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS, FEES AND INSPECTIONS PRIOR TO COMMENCING WORK. UPON COMPLETION OF WORK THE CONTRACTOR SHALL SECURE CERTIFICATE OF OCCUPANCY.
6. CONTRACTOR SHALL BE RESPONSIBLE TO DISPOSE OF ALL DEMOLISHED MATERIAL OF SITE IN AN APPROVED MANNER.

## Phasing Notes

CONTRACTOR TO PERFORM WORK IN PHASES AS INDICATED BELOW. ALL EQUIPMENT TO BE REMOVED SHALL BE HANDED OVER TO OWNER FOR POTENTIAL REUSE.

**PHASE 1:** EXISTING 1-1/4" (VIF) GAS PIPING FROM METER TO BE REMOVED AND REPLACED WITH 2" GAS PIPING TO ACCOMMODATE NEW EQUIPMENT. REMOVE ONE (1) HX AND ALL ASSOCIATED PIPING, VALVES, ELECTRICAL, ETC. INSTALL ONE (1) NEW HWH COMPLETE WITH PIPING, VALVES, ELECTRICAL, ETC AS INDICATED ON PLANS.

**PHASE 2:** REMOVE A SECOND HX AND ALL ASSOCIATED PIPING, VALVES, ELECTRICAL, ETC. INSTALL SECOND NEW HWH COMPLETE WITH PIPING, VALVES, ELECTRICAL, ETC AS INDICATED ON PLANS.

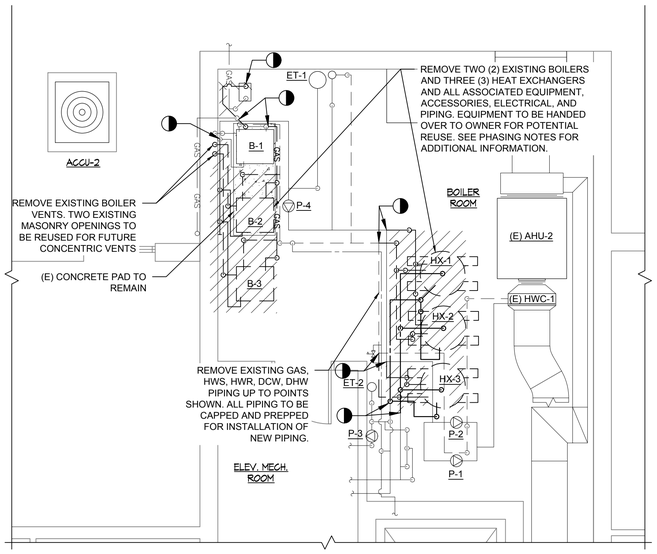
**PHASE 3:** REMOVE THE THIRD HX AND TWO (2) BOILERS WITH ALL ASSOCIATED PIPING, VALVES, VENTS, FRESH AIR INTAKE, ELECTRICAL, ETC. BOILER B-1 TO REMAIN AND SERVE HWC-1 OF AHU-1.

## DOMESTIC HOT WATER HEATER SCHEDULE

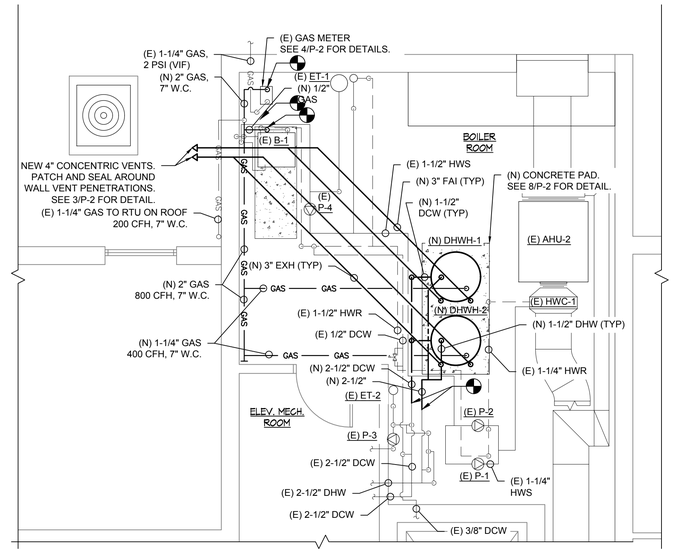
( A.O. SMITH AS STANDARD)

| TAG | LOCATION | SERVICE | INPUT RATING (MBH/CFH) | STORAGE CAPACITY (GAL) | RECOVER RATE @100° RISER (GPH) | FLUE SIZE | INTAKE SIZE | ELECTRICAL DATA (VOLT / PH / HX) | MODEL | MANUFACTERER | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DHWH-1, 2 | MECH ROOM | DOMESTIC WATER SYSTEM | 400 | 119 | 920 | 3" Ø | 3" Ø | 120 / 1 / 60 | BTH-400 Mxi | A.O. SMITH | SEE NOTE(S) BELOW |

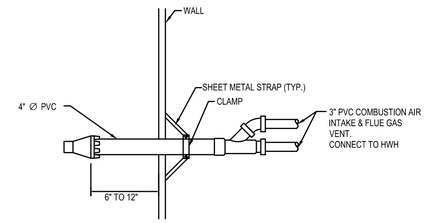
NOTE: PROVIDE CONCENTRIC VENT KIT OUT THRU WALL



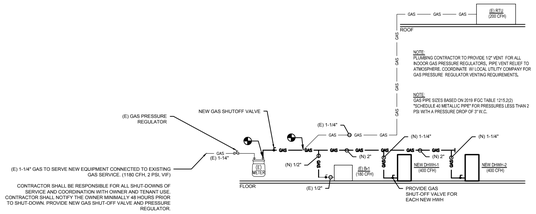

1 P-2 BOILER ROOM PLUMBING DEMOLITION PLAN
1/4" = 1'-0"



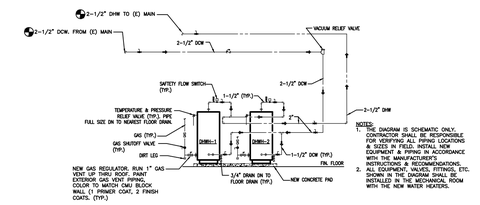

2 P-2 BOILER ROOM PROPOSED PLUMBING PLAN
1/4" = 1'-0"



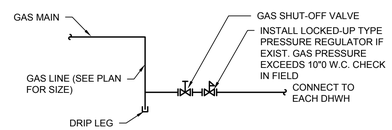

3 P-2 CONCENTRIC VENT DETAIL
N.T.S.



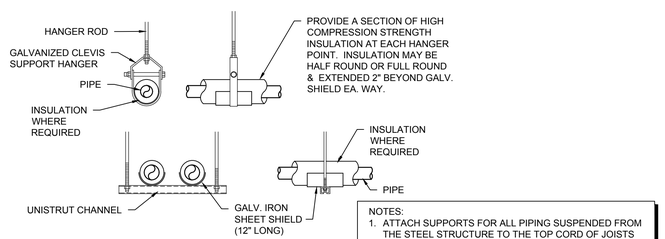

4 P-2 GAS RISER DIAGRAM
N.T.S.




5 P-2 HOT WATER SYSTEM PIPING DIAGRAM
N.T.S.

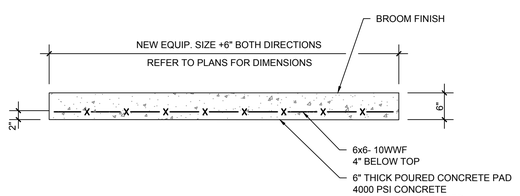



6 P-2 GAS CONNECTION DETAIL
N.T.S.




NOTES:
1. ATTACH SUPPORTS FOR ALL PIPING SUSPENDED FROM THE STEEL STRUCTURE TO THE TOP CORD OF JOISTS OR BEAMS.
2. PROVIDE COPPER OR PLASTIC COATED HANGERS FOR NON-INSULATED COPPER PIPE.

7 P-2 PIPE SUPPORT DETAILS
N.T.S.




8 P-2 CONCRETE PAD DETAIL
N.T.S.


NJ Certificate of Authorization
Eng'r. Nos. 24GA27937500
Arch. Nos. 21AC00012400
Date 6/4/2021
Checked MAM
Drawn LLS

THOMAS WIGHARD, P.E.
License No. NJ24GE04901100
Title PROFESSIONAL ENGINEER


**Revisions:**


LAN ASSOCIATES
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DEMO/PROPROSED PLUMBING PLANS, DETAILS, & SCHEDULES

BERGEN COUNTY HOUSING AUTHORITY
DOMESTIC HOT WATER HEATER REPLACEMENT AT
HIGHLAND VIEW APARTMENTS
300 HIGHLAND AVE, PALISADES PARK, NJ 07650

Job No. 2.2591.61

File No. 259161P201

P-2

# Electrical General Notes

Project Information:

1. Unless specifically noted otherwise, it shall be understood that when the words "Owner" or "Client" are used in these drawings they are interchangeable an all refer to the Housing Authority of Bergen County.
2. Unless specifically noted otherwise, it shall be understood that when the words "Architect", "Engineer", or "A/E" are used in these drawings they are interchangeable an all refer to LAN Associates, Engineering, Planning, Architecture Surveying ("LAN").
3. Unless specifically noted otherwise, it shall be understood that when the word "Contractor" is used in the Electrical (E-#) drawings and/or Electrical Specification sections it refers to the Electrical Contractor.
4. Where any device or part of equipment is referred to in these drawings in the singular number (e.g., "the switch", "the receptacle"), this reference shall be deemed to apply to as many such devices as are required to complete the installation as shown on the drawings.
5. Health, safety, and critical operating equipment shall not be compromised without owner's authorization. Schedule shutdown during off hours and implement and maintain a temporary operational plan.

Code & Standards Compliance:

6. Code compliance is mandatory. Nothing in these Drawings and Specifications permits work not conforming to these codes. Where work is shown to exceed minimum code requirements, comply with drawings and specifications. When differences in utility specifications or standards, governmental ordinances or codes occur, the more stringent requirements shall govern the installation.
7. The electric installation shall be in accordance with the currently enforced edition of the National Electrical Code (NEC), National Electrical Safety Code (NESC), American Electricians' Handbook, International Building Code (IBC), Americans with Disabilities Act (ADA), NFPA 55 & 99 ASHRAE 90.1 and NEC Standard of installation. Wherever in the documents the word "code" is stated, the more stringent of the above referenced codes is implied.
8. All contractor supplied materials/equipment shall be new and UL Listed or approved by another Nationally Recognized Testing Laboratory (NRTL).
9. The contractor shall pay for and obtain all permits and inspections required by the drawings, building and safety codes and ordinances, and the rules and regulations of any legal body having jurisdiction. Permit and inspections shall be included in the base bid and shall not be cause for an extra.
10. Contractor shall conform to all safety rules and other regulations, etc. pertaining to construction work on the client's premises. Contractor shall be responsible to ensure that all rules and regulations have been met and coordinate this work with responsible client's personnel.
11. Contractor shall review code compliance drawings and identify all penetrations through fire/smoke partitions, floor and roofs. Patch compromised partitions to match fire/smoke resistance rating as stated on code compliance drawings.

General Procedures:

12. All equipment shall be as indicated by the Engineer/Architect.
13. The cost incurred by the acceptance of substitutions shall be borne by the contractor. Proof for the equality of the substitutions shall be by the contractor and differences shall be enumerated with the submittal. Submission without the differences noted can be grounds for rejection without review.
14. Electrical components, including but not limited to, conductor size, overcurrent protection device and disconnect switches are based on the power requirements of the equipment shown on the contract documents. All costs (including additional design fees if required) associated with changes to these power requirements shall be the responsibility of the contractor making the change.
15. Obtain shop drawings and wiring diagrams for the proper installation of related electrical work.
16. Electrical Contractor shall be responsible for the removal of debris generated by his work and workers at the end of each working day and for general good housekeeping by his workers. Electrical Contractor shall provide required refuse containers.
17. Unless otherwise indicated on the mechanical schedules/drawings, the electrical contractor shall provide and install all disconnect switches for all mechanical equipment (i.e., roof top HVAC units, exhaust fans, variable air volume devices, etc.)

Site Conditions/Drawing Coordination:

18. These drawings and specifications illustrate the work to be performed. The Engineer is not responsible for the means, methods, techniques, sequences, and procedures used to do the work, or the safety aspects of constructions, and nothing on these drawings expressed or implied changes this condition. Prior to bidding and/or starting work the contractor shall visit the project site to determine the conditions under which the work is to be performed and shall be responsible for knowing how they affect the work. Schedule site visit with client's representatives. Additionally, the contractor shall field verify all site dimensions and room layouts. Submission of a bid to perform this work is an acknowledgement of these responsibilities, and that they have been fully considered in planning of the work, and the bid price. No claims or extra charges due to these conditions will be forthcoming.
19. The client will occupy the site and existing building during the entire construction period. Cooperate with the client during construction operations to avoid any conflicts. Perform the work so as not to interfere with the client's operations. Schedule all power outages, with the client's approval, for overtime on Sundays and Holidays at no additional cost to the client.
20. Existing project conditions indicated are based on field observations; existing design/construction documents and existing record documents and are intended to indicate the scope of the work affected by this project.
21. Drawings shall not be scaled. Drawings indicate the general arrangement of systems and requirements of the work. Although size and location of equipment is drawn to scale wherever possible, contractor shall make use of all data in all of the contract documents and verify information at the project site.
22. The electrical contractor shall make his own takeoff on all quantities. It shall be his responsibility, at his cost, to include all equipment and material in order to comply with the intent of the drawings.
28. Routing for feeders, instrumentation and control circuits is not shown on the plan drawings. Final location and routing shall be suited for the construction of the building and established by the contractor based on the installation conditions and shall be verified in the field. All feeder information, conduit types and installation requirements shall be in accordance with the specifications, electrical riser diagram and appropriate panel schedules.
29. Any cutting, patching, or finish repair work required for the electrical installation is the responsibility of the contractor.
30. Where mounting heights are not detailed or dimensioned, install electrical services and overhead equipment to provide maximum headroom possible. Connect equipment for ease of disconnecting with minimum interference with other installations.
31. Where conflicts exist, provide in the bid proposal the more costly alternative.

Work/Trade Coordination

32. Coordinate work with other trades to avoid conflict and to provide correct rough in and connection for equipment furnished under trades that require electrical connections. Inform Contractors of other trades of the required access to and clearances around electrical equipment to maintain serviceability and code compliance.
33. The electrical contractor shall verify the size and rating of all approved mechanical equipment prior to the installation of feeder and branch circuit conductors and overcurrent protection devices.
34. AC and Refrigeration Equipment Nameplate Rating: Short circuit and ground fault protection device rating shall not exceed the manufacturer's values marked on the equipment.
35. Sequence, coordinate and integrate installations of electrical materials and equipment for efficient flow of work. Give particular attention to large equipment requiring positioning prior to closing in the building. Coordinate the cutting and patching of building components to accommodated installation of the electrical equipment and materials.
36. The Contractor shall coordinate work with the other trades to ensure the minimum safe working clearances around electrical equipment and to ensure access to equipment requiring calibration or maintenance (including motors, controls, instruments, panels, lights, valves, filters, and VAV boxes). Working space and access shall be sufficient for an adult to perform maintenance safely without straddling or removing obstructions and shall conform to NEC requirements (i.e., 110.26 & 110.34). Work that encroaches on working space or that impedes maintenance shall be relocated at the Contractor's expense.

Installation:

37. Grounding shall be installed in accordance with the NEC in accordance with electrode, grounding and bonding requirements for service, equipment and enclosures. Install an insulated equipment ground conductor in each raceway or conduit. Size equipment ground conductor in accordance with NEC Table 250.122. Bond raceways and the frames and enclosures of motors, breakers, switches, and other electrical equipment to the building grounding system. Precaution shall be taken to ensure adequate ground continuity along the conduit or raceway.
38. Provide a separate neutral conductor for each circuit. Install neutral conductors and ground conductors into all switch boxes. Multiple circuits shall not share a common neutral. Neutral shall be sized as large as the phase conductors. Neutral conductors shall not be reduced in size.
39. Arrange connections for single phase circuits to achieve three phase load balance within 20% of the average phase load current. Ungrounded conductors using a common neutral must originate from different phases.
40. The electrical contractor is responsible for maintaining proper phase rotation with all existing three (3) phase electric loads.
41. Phase rotation check: on multi-phase equipment, perform a phase rotation check prior to energizing the equipment. Use Knopp K-3 or equivalent device with red or "A" lead connected to phase A, white or "B" lead connected to phase B, and blue or "C" lead connected to phase C. Note the phase rotation and annotate test documentation with device used, manner connected, rotation observed, date of test, and name of craftsman. Do not energize equipment unless observed rotation matches the requirements of the equipment
42. Contractor shall supply all labor, power cables, conduit boxes, fittings, wiring materials, hardware, supports, and miscellaneous items for a complete electrical installation and connection of the electrical work required, except that the provision for owner supplied equipment shall be only be completed to the point indicated elsewhere on the drawings.
51. All new wiring is to be run concealed wherever possible. All conductors shall be in a surface mounted metallic raceway in public spaces or metallic conduit in utility locations when not routed concealed in the ceiling/wall cavities. Any locations that do not have accessible or dropped ceilings will require the use of surface mounted metallic raceways. Provide pull-boxes (size per code) and locate in conduit runs as required. No exposed cable may be installed.
52. All openings and penetrations shall be sealed upon completion of the electrical installation to prevent the spread of smoke and fire through openings. Seal around conduit and raceway penetrations through interior walls and floor separating areas to restore original fire rating: use a UL classified fire sealant. Seal penetrations through roof and exterior walls to make waterproof. Request inspection of fire seals by electrical inspector from authority having jurisdiction before and after placement of fire seal materials. All openings shall be coordinated with the other trades to limit interference and obstruction.
53. Limit the use of electrical metallic tubing (EMT) to where it will not be subject to physical damage or corrosion. Use intermediate metal conduit (IMC) or rigid galvanized steel conduit (RGS) where raceways are embedded in concrete or exposed to physical damage. Use minimum 3/4" conduit except as follows: 1/2" conduit may be used for 20 amp general light and power circuits and for control circuits; 3/8" flexible metal conduit may be used to connect light fixtures in suspended ceilings. Use liquid tight flexible metal conduit for flexible connection to equipment in mechanical rooms or outdoors.

Wire Information:

54. All wiring shall be copper conductor, 600 volts in EMT raceway with approved fittings unless otherwise indicated. Feeder and branch circuit wiring shall be minimum #12 AWG unless otherwise indicated. Feeder and branch circuit wiring larger than #10 AWG shall be stranded conductor: #10 AWG and smaller, shall be solid conductor. Control wiring shall be #18 AWG THWN. Type of insulation as follows unless noted otherwise:
    a. THHN/THWN insulation for #4 AWG and smaller
    b. THW or THHN/THWN insulation for #2 AWG and larger
    c. THW used for all panel feeder and service conductors
    d. XHHW-2 insulation type shall be used where conductors are installed in conduits exposed to the weather.
67. Use the following conductor color codes:

| | 208Y/120V | 480Y/277V |
|---|---|---|
| Phase A | Black | Brown |
| Phase B | Red | Orange |
| Phase C | Blue | Yellow |
| Neutral | White | Gray |
| Equip. Ground | Green | Green |

Circuit Breakers:

68. Use 600 VAC circuit breakers in 480V and 480Y/277V switchboards, panelboards and motor control centers.
69. Provide circuit breakers with UL listed interrupting rating (RMS symmetrical amperes) greater than the available fault current shown on the electrical one-line diagram. "Series rated" equipment shall not be accepted.
70. All circuit breakers shall be molded case thermal magnetic and rated for available short circuit current.
71. Circuit breakers used as switches shall be UL listed for switching duty and marked "SWD" per NEC 240-83(D).

Labeling:

72. Provide identification tags for all new wiring and install at each end and in all intermediate pull/junction boxes, cabinets, housings, etc. Indicate on tags, legibly minimum ¼" high letters, the points of origin and termination of each conduit and conduit run. Label all receptacles and switch covers with panelboard and circuit number. For interior equipment, use Brother P-touch 3 label maker with TC-10 label cartridge or equal. For exterior equipment, use aluminum dymo half-inch tape label with embossed lettering. Abbreviate lettering to provide necessary information with minimum label size (i.e., Panelboard PP1, Circuit 23 should read PP1-23).
73. All panels shall have typed, completed directories indicating equipment served and room number (as indicated on the final building signage) of equipment location, or spare, or space. Identify the purpose of individual circuit breakers, safety switches and motor starters by means of nameplates as indicated. Update directories as panels are altered. Circuit changes shall be reflected on "as-built" drawings.
74. All circuits and circuit modifications must be legibly identified as to their clear, evident, and specific purpose. The identification must include sufficient detail to allow each circuit to be distinguished from all others, and the identification must be on a circuit directory located on the face or inside of the door of a panelboard. Circuit directories containing multiple entries with only ``lights'' or ``outlets'' do not provide the sufficient detail required by the NEC.

Inspections/Warranty:

96. No work shall be concealed until after inspection and approval by proper authorities. If work is concealed without inspection and approval, the Contractor shall be responsible for all work required to both open and restore the concealed areas in addition to any required modifications.
97. The contractor shall make a final inspection of all electrical equipment to ensure that there are no loose electrical connections or electrical circuits subject to electrical break down due to the presence of foreign material. This shall include inspection of all connections made under this contract.
98. The contractor shall deliver certificates of electrical and other inspections or copies thereof, to the client at the completion of the project with copies to the Engineer/architect.
99. The contractor shall guarantee all work in writing to the client against any and all defects in material and workmanship for a period of one year, or as indicated in the specification, from date of acceptance and perform all corrective work at no cost to the client.

# Electrical Demolition Notes

General Project Info:

1. The demolition drawings are diagrammatic and indicated the general intent and scope. Plans do not attempt to show all electrical demolition items. Unless otherwise noted, devices shown are for information purposes. Field verify all demolition items and the extent of demolition work, conditions under which demolition is to be accomplished along with kind and amount of materials being removed and provide for removal of all devices accordingly prior to bid.
2. Contractor shall include all labor and materials in the base bid including all temporary connections, conduit and wire in order to accommodate construction and provide continuous service to devices. Systems that are to remain temporary or permanently and require the shutdown of the building power shall be performed during overtime and shall be included in the base bid.
3. The contractor is responsible for the sequence of all work and shall include in the base bid all labor and materials required for the extensions, re-routing and relocation of existing system components, equipment, wiring, conduits and cabling to maintain operation of all systems throughout the building during demolition and construction phases.
4. The contractor shall report to the architect any and/or all conditions that may interfere with or otherwise affect or prevent the proper execution and completion of the work of this contract.
5. The contractor shall execute all work within the regulations of the building for demolition and removal of debris. Overtime work required will be at no extra cost to the client.
6. All equipment shall be disconnected and removed back to its power source of origination unless otherwise noted ("U.O.N.") by Existing to Remain ("E"). All disconnected and removed items that are not being reused shall be returned to the owner or disposed off site in an approved method.
7. The contractor shall at all times protect the property of the client and the building owner, including but not limited to windows, finishes, public toilets, elevators, doors, bucks, electrical and air conditioning equipment, convector enclosures, etc.
8. Unless noted otherwise, all of the existing electrical equipment currently associated with the equipment being removed, whether specifically indicated on this drawing or not, shall be disconnected and removed from service. The owner has first right of refusal on all removed items. All items not wanted by the owner shall be properly disposed of offsite by the contractor in accordance with the law. Care shall be taken to maintain circuit continuity to all existing electrical devices to remain.
9. Relocate or remove all electrical devices in accordance with the applicable codes.
10. Do not disable or disrupt building fire or life safety systems without written permission from the Owner. In all cases, permission shall have been granted not less than ten (10) working days prior to the intended interruption.

Work/Trade Coordination:

11. Electrical Contractor shall coordinate the mechanical equipment demolition with the Mechanical Contractor and mechanical demolition plans for all equipment to be demolished and schedule time for electrical demolition.

Demolition Requirements:

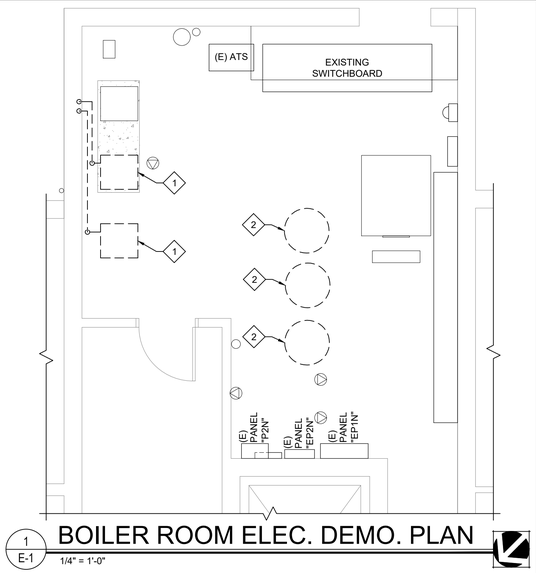
12. Remove abandoned electrical equipment, devices and wiring (i.e., distribution equipment, receptacles, data ports, raceway systems) back to the source panelboard, switchboard, switchgear, communications closet, or cabinet. Abandoned wiring and raceways can result from actions that include the following:
    a. Equipment is removed or relocated.
    b. Fixtures are removed or relocated.
    c. System is no longer used.
    d. There is no demonstrable near term future use for the existing circuit or raceway system.
20. Unused electrical equipment and material should only be left in place if one or more of the following conditions exist:
    a. The removal requires the demolition of other structures or equipment that is still in use. An example is conduit embedded in walls or ductbanks.
    b. The cost of removal is excessive due to hazards, construction methods, or restricted access. A final determination for this condition shall be made by the engineer.
    c. If either of the above two cases exist, remove the conduits, including those above accessible ceilings, to the point that building construction, earth, or paving covers them. Cut conduit beneath or flush with building construction or paving. Plug, cap, or seal the remaining unused conduits. Install blank covers for abandoned boxes and enclosures not removed.
21. Inventory each panelboard where circuits are indicated to be reused. Sequentially consolidate existing circuits within each panelboard with regard to area served. Maximize capacity for service to the project area by including existing spares with the group of circuits breakers to be disconnected as a result of this selective demolition. Prepare a current directory, post demolition, for each panelboard as the base upon which the final directories will be compiled.

Extension/Continuity:

22. Extend existing equipment connections using materials and methods compatible with the existing electrical installation and identified in the Electrical Specifications.
23. When relocation or removal of an electrical device interrupts the continuity of a downstream circuit or device to remain, reroute/modify the circuit as required to maintain circuit continuity. Provide new junction boxes, pullboxes, raceways, wiring, etc., as required.
24. Where an existing device is removed but the raceway and box remains for circuit Continuity, provide an appropriate blank cover plate of material and finish to match the cover plates of the devices in that room.
25. If the continuity of the neutral conductor of a multiwire circuit is interrupted (open), the resultant over or under voltage can cause a fire and/or destruction of electrical equipment. Contractor shall take necessary precautions to preclude the interruption of neutral conductor on a multiwire circuit.
26. Non-demolition areas: Demolition works shall not affect areas not included in demolition. Contractor shall be responsible for the continuity of all services in non-demolition areas. All services shall be maintained at all times. Maintain service by extending, re-routing and/or reconnecting any circuits affected by demolition. Provide additional conduit/wire as required to maintain service. Circuits in non-demolition areas that are connected to demolished panels and/or circuits shall be re-circuited to the existing panels. Provide temporary power as required during change-over to maintain continuous service. Provide temporary power for all relocated circuits as required to maintain continuous service.

Patching/Repairing:

30. Restore the original fire rating of floors, walls, and ceilings after electrical demolition using a UL classified fire sealant.
31. Upon completion of the demolition work, the contractor shall provide that all areas be left broom clean.
32. Furnish and install knockout plugs on all existing panels, equipment, and outlet box openings created by the removal or relocation of existing raceways.
33. Where an existing electrical device, equipment, etc., is being removed from an existing wall and that wall is to remain contractor shall patch existing wall to architects satisfaction.




1 E-1 BOILER ROOM ELEC. DEMO. PLAN

1/4" = 1'-0"




1 E-1 BOILER ROOM ELEC. PROP. PLAN

1/4" = 1'-0"

## Symbol Legend

| SYMBOL | DESCRIPTION |
|---|---|
| # | **HOMERUN -** HOMERUN TO CIRCUIT(S) INDICATED. |
| | **CONDUCTOR INDICATOR -** FULL HASHES INDICATE UNDGROUNDED "HOT" CIRCUIT CONDUCTORS. HALF HASHES INDICATE GROUNDED NEUTRAL CONDUCTORS. ALL CIRCUITS CONTAIN A GROUND CONDUCTOR. (1) HOT, (1) NEUTRAL (eg., 120 OR 277, 1φ) |
| 20/1 1HP | **FRACTIONAL HORSE POWER MOTOR STARTER -** NON-FUSIBLE, TOGGLE-TYPE RATED AS INDICATED ON THE DRAWINGS, (EG. 20/1 INDICATES 20A, 1 POLE). IF NO RATING IS INDICATED, INSTALL A CODE SIZED SWITCH. INSTALL IN A NEMA-1 ENCLOSURE UNLESS NOTED OTHERWISE. |

## Proposed Electric Key Notes

(#) SYMBOL INDICATES PROPOSED KEY NOTE

1. CONNECT TO NEW 1P, 20A BREAKER IN PANEL EP2N VIA ¾"C W/ (2) #12 & (1) #12 GND.

## Demolition Electric Key Notes

(#) SYMBOL INDICATES DEMOLITION KEY NOTE

1. **EXISTING BOILER TO BE REMOVED:** EC TO DISCONNECT EXISTING BOILER POWER AND REMOVE ALL ASSOCIATED DISCONNECTS/ SWITCHES, CONDUCTORS & CONDUITS BACK TO THEIR SOURCE.
2. **EXISTING HEAT EXCHANGER TO BE REMOVED:** EC TO DISCONNECT EXISTING HEAT EXCHANGER POWER AND REMOVE ALL ASSOCIATED DISCONNECTS/ SWITCHES, CONDUCTORS & CONDUITS BACK TO THEIR SOURCE.

| NJ Certificate of Authorization | |
|---|---|
| Eng'r. Nos. | 24GA27937500 |
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THOMAS WIGHARD, P.E. — License No. NJ24GE04901100 — Title PROFESSIONAL ENGINEER

**Revisions:**


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DEMO/PROPOSED ELECTRICAL PLANS DETAILS, & SCHEDULES

BERGEN COUNTY HOUSING AUTHORITY
DOMESTIC HOT WATER HEATER REPLACEMENT AT
HIGHLAND VIEW APARTMENTS
300 HIGHLAND AVE, PALISADES PARK, NJ 07650

Job No. 2.2591.61

File No. 259161E201

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