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## #2020-00035

# **Darlington Ct Apartments – Final PUD Amendment Project Review for Planning and Zoning Commission**

Meeting Date: May 6, 2020

**Requests:** Final PUD Amendment to allow changes to approved site

plan for a community center and trash enclosure.

**Location:** 590-595 Darlington Lane

**Existing Zoning:** R-3B PUD – Multi-Family Residential Planned Unit

Development

**Surrounding Properties:** North: B-2 – General Commercial

South: R-2 – Single-Family Residential

East: R-2 PUD – Single-Family Residential Planned Unit

Development & M-L – Manufacturing Limited

West: O PUD – Office Planned Unit Development & R-2

Single-Family Residential

**Staff Contact:** Kathryn Cowlin (815.356.3615)

### **Background:**

• Existing Use: The subject property is a 234-unit apartment complex with an existing outdoor pool.

### • Previous Approvals:

- o In 1966, the Final Planned Unit Development for Darlington Court Apartments (previously known as Coventry Green) was approved.
- o In 2006, the City Council approved a request to convert the apartments into condos. The condo plat was never completed.
- o In 2009, a variation from the Subdivision Ordinance was approved to defer the burial of the overhead utilities until an area wide program was initiated.

### **Development Analysis:**

- Request: The petitioner is requesting a Final PUD Amendment to allow changes to the approved site plan for a community center and trash enclosure.
- <u>Land Use</u>: The land use map shows the area as High Density Residential. This land use designation is appropriate for the area.
- Zoning: The site is zoned R-3B PUD. This is an appropriate zoning designation for the area.

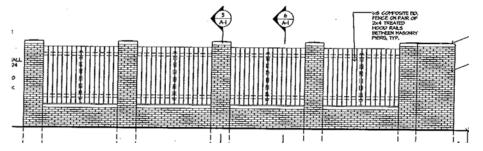
## **Proposed Community Center**

- The community center would be located in the common area in the center of the apartment buildings.
- The proposed scope of work includes removing the existing outdoor pool and replacing it with a community center. The community center would have an indoor pool, locker rooms, meeting room and offices.
- The proposal would reduce the impervious surface area in the common area.
- The existing playground would be removed and a new playground would be installed.
- The architecture of the proposed community center includes a knee wall of brick, horizontal siding, decorative gable vent and a gable bracket over the front entry. The existing apartment buildings are brick and EIFS.

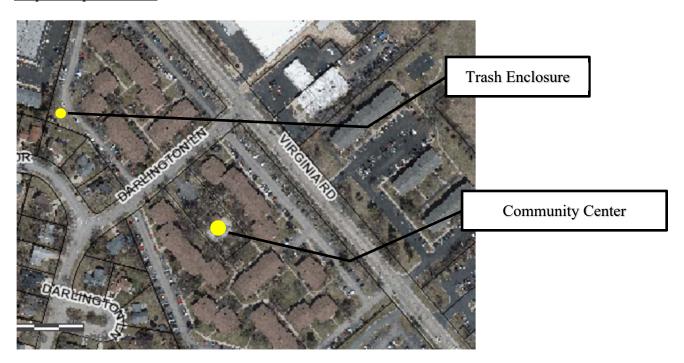


### Proposed Trash Enclosure

- The proposed trash enclosure is constructed of brick and composite fencing.
- It would screen a new trash compactor.
- Currently, the area is open grass. There is an existing fence along the property between the subject property and the single-family homes to the south.



## Map of Improvements



### Comprehensive Land Use Plan 2030 Vision Summary Review:

The Comprehensive Plan designates the subject property as High Density Residential, which allows for existing and future commercial uses. The following goal is applicable to this request:

### Land Use - Residential

Goal: Encourage a diversity of high quality housing in appropriate locations throughout the city that supports a variety of lifestyles and invigorates community character.

This can be accomplished with the following supporting action:

**Supporting Action:** Preserve and enhance the character and livability of existing residential area with architectural and development guidelines. Promote safe, clean and well-maintained housing by encouraging regular repair and maintenance of housing.

## **Findings of Fact:**

### FINAL PLANNED UNIT DEVELOPMENT AMENDMENT

The petitioner is requesting an amendment to the Final Planned Unit Development to allow changes to the approved site plan for a community center and trash enclosure. A Planned Unit Development is a Special Use and Special Uses require separate review because of their potential to impact surrounding properties and the orderly development of the City.

Section 2-400 B General Standards for all special uses in the Unified Ordinance establishes standards for all special uses in Crystal Lake. Briefly, the criteria are as follows:

1. The use is necessary or desirable, at the proposed location, to provide a service or facility which

|     | will further the public Meets   | c convenience and general welfare.    Does not meet  |
|-----|---|--|
| 2.  | The use will not be do  | etrimental to area property values.    Does not meet   |
| 3.  | The use will comply Meets   | with the zoning districts regulations.    Does not meet  |
| 4.  | The use will not negative the matter of the | tively impact traffic circulation.  Does not meet  |
| 5.  | _   | atively impact public utilities or municipal service delivery systems. If contribute financially to the upgrading of public utilities and municipal ems.    Does not meet                    |
| 6.  | The use will not nega   | tively impact the environment or be unsightly.  Does not meet  |
| 7.  | architecture, which i   | ble will preserve existing mature vegetation, and provide landscaping and s aesthetically pleasing, compatible or complementary to surrounding able by community standards.    Does not meet |
| 8.  | The use will meet req   | quirements of all regulating governmental agencies.    Does not meet   |
| 9.  | The use will conform  Meets   | to any conditions approved as part of the issued Special Use Permit.    Does not meet  |
| 10. | . The use will conform  Meets   | to the regulations established for specific special uses, where applicable.    Does not meet   |

### **Recommended Conditions:**

If a motion is made to recommend approval of the petitioner's request, the following conditions are recommended:

- 1. Approved plans, to reflect staff and advisory board comments, as approved by the City Council:
  - A. Application (Cunat, dated 03/12/2020, received 03/12/2020).
  - B. Plan Set (RB Custom Design, dated 04/22/19, received 03/12/2020)
  - C. Trash Enclosure (RB Custom Design, dated 03/23/2020, received 03/24/2020)
- 2. Provide foundation landscaping around the community center.
- 3. Work with staff to preserve the existing trees in the common area near the new community center.
- 4. Work with staff to provide a landscape screen between the single-family lots and the trash enclosure.
- 5. The petitioner shall comply with all of the requirements of the Community Development and Fire Rescue Departments.

## PLN-2020-00035 DARLINGTON COURT – PUD AMENDMENT





| City of Crystal Lake    |   |
|-------------------------|---|
| Development Application | ļ |

| Office Us | se Only |
|-----------|---------|
| File#     |         |

| Project Title: | Darlington | Court- | Community | Center |   |
|----------------|------------|--------|-----------|--------|---|
|                | * 1        |        |           |        | _ |
|                | , )        |        | . 1       |        |   |

| J                                 | J                                |
|-----------------------------------|----------------------------------|
| Action Requested                  |                                  |
| Annexation                        | X Preliminary PUD                |
| Comprehensive Plan Amendment      | Preliminary Plat of Subdivision  |
| Conceptual PUD Review             | Rezoning                         |
| Final PUD                         | Special Use Permit               |
| Final PUD Amendment               | Variation                        |
| Final Plat of Subdivision         | Other                            |
| Petitioner Information            | Owner Information (if different) |
| Name: Darlington-Conat, LLC       | Name: (Same)                     |
| Address: 5400 W. EIMST            | Address:                         |
| Swite 110 McHenny                 |                                  |
| Phone: 815.358.392 60050          | Phone:                           |
| Fax:                              | Fax:                             |
| E-mail: SSpitson@conad            | COME-mail:                       |
| Property Information COVAT. COV   |                                  |
|                                   | New Community Center             |
|                                   |                                  |
|                                   |                                  |
| Project Address/Location: 595 Dal | Mington Lane                     |
| Crystau                           | Lake, IL 60014                   |
| PIN Number(s):                    |                                  |

MAR 10 2020

OWNER: Print and Sign name

Date

| Developer: Carpentry Development Co. 5400 W. Ely St 110 McHenry II. 200 8546 SSPITSON @ CONAt. com.                                      |
|--|
| phi 815-759-8546 SSpitsone Conat. com.   |
| Architect: R.B. Custom Designs Inc. 2108 W. Johnsburg Rd. Johnsburg IL   |
| Architect: R.B. Custom Designs Inc. 2108 W. Johnsburg Rd. Johnsburg II. ph: 815-759-9459 fax: 815307.8200 rbierman@rboustomdosgnsinc.com |
| Attorney:  |
| Engineer: GEWALT 44111 TON ASKOC. TWO 1075 FROM FORD DONLOVION HILLS FL  |
| Engineer: GEWALT HAUILTON ASOC, TAK 625 FDEEST Fdge Dr Vernon Hills, The BUT-478-9700 Fax: 847-478-970, csmith @gna-engineers.com 6000/  |
| Landscape Architect:   |
|  |
| Planner:   |
|  |
| Surveyor: Vander Stappen Land Surveying. Inc. 1316 1. Madison St<br>815.337.8310 Ax: 815.337.8314 informacising.com Woodstock, IC        |
| 815.337.8310 Ax: 815.337.8314 infra vandersing com Woodstock, IC   |
| Other:   |
| Other.   |
|  |
| Standard   |
| Signatures ////  |
| 3-12-2020  |
| PETITIONER: Print and Sign name (if different from owner)  Date  |
|  |
| As owner of the property in question, I hereby authorize the seeking of the above requested action.                                      |
| Draudent 3-12-2000   |

NOTE: If the property is held in trust, the trust officer must sign this petition as owner. In addition, the trust officer must provide a letter that names all beneficiaries of the trust.



Northwest Herald

## **NORTHWEST** HER A

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Notice Keywords: Hayden

Notice Authentication Number: 202004291029052348100 213731298

Notice URL:

Back

Notice Publish Date: Saturday, April 18, 2020

### **Notice Content**

PUBLIC NOTICE BEFORE THE PLANNING AND ZONING COMMISSION OF THE CITY OF CRYSTAL LAKE, MCHENRY COUNTY, ILLINOIS IN THE MATTER OF THE PETITION OF Darlington-Cunat LLC LEGAL NOTICE Notice is hereby given in compliance with the Unified Development Ordinance of the City of Crystal Lake, Illinois that a public hearing will be held before the Planning and Zoning Commission upon the application by Darlington-Cunat LLC, for a Final Planned Unit Development Amendment, relating to the property at 590-595 Darlington Lane, Crystal Lake, Illinois 60014. PIN: 19-98-132-001 & 19-08-259-001. This application is filed for the purpose of seeking an amendment to an approved Final Planned Unit Development to allow changes to the site plan to allow for the removal of the existing outdoor pool and to construct a community center with indoor pool and add a trash enclosure pursuant to Article 4 and Article 9 of the Unified Development Ordinance. Plans for this project can be viewed at the Crystal Lake Community Development Department at City Hall. A public hearing before the Planning and Zoning Commission for this request will be held at 7:30 p.m. on Wednesday, May 6, 2020, at the Crystal Lake City Hall, 100 West Woodstock Street, at which time and place any person determining to be heard may be present. Tom Hayden, Chairperson Planning and Zoning Commission City of Crystal Lake (Published in the Northwest Herald April 18, 2020) 1772282

**Back** 



## **MEMORANDUM**

625 Forest Edge Drive, Vernon Hills, IL 60061

Tel 847.478.9700 FAX 847.478.9701

www.gha-engineers.com

Date:

February 12, 2020

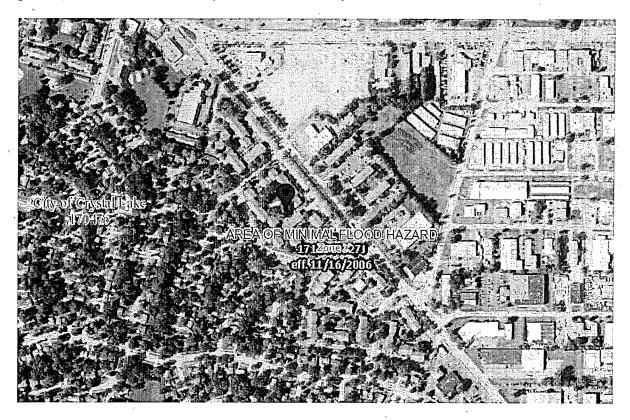
Subject:

Darlington Court Apartments in Crystal Lake, IL

Stormwater Memo

GHA Project # 5665.000

The Darlington Court Apartments are located on Virginia Avenue in the City of Crystal Lake. The complex was constructed in the 1950's, prior to the implementation of stormwater ordinances. The site does not consist of any wetland or special flood hazard areas, as it is located in a Zone X per FIRM Panel 17111C0327J (effective 11/16/2006).



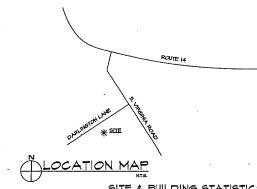
The proposed activities on the property include the removal of the existing pool, a poolhouse, and sidewalk. The proposed improvements include the construction of a new pool in an enclosed building, reconstructing utility service lines for the building, minor regrading to accommodate the new building, some storm sewer service lines to maintain existing drainage patterns, and reconfigured sidewalk.



The project will disturb greater than 5,000 square feet, and therefore will require a stormwater management permit. As shown in the attached exhibit, the existing project area has an impervious surface area of 18,547 square feet. The proposed improvements will result in an impervious surface area of 17,795 square feet, which will reduce the impervious coverage of the site by approximately 752 square feet and therefor will not trigger requirements for detention.

A soil erosion and sediment control plan and details are included in the permit submittal to comply with the current Stormwater Management Ordinance.

# NEW COMMUNITY CENTER FOR: DARLINGTON COURT APARTMENTS 595 DARLINGTON LANE CRYSTAL LAKE, ILLINOIS 60014



ONING CLASSIFICATION

ALLOHABLE BUILDING HEIG ACTUAL BUILDING HEIGHTI

BUILDING CODE

ECHANICAL CODE

S ECTRICAL CODE.

PLIMBING CODE: NERGY CODE TRE CODE

FUEL GAS CODE CCESSIBILITY CODE

TRE SPRINKLER ALLOHABLE BUILDING AREA (PER IBC TABLE 506.2)

### SITE & BUILDING STATISTICS

A-3 = 3.210 SF. S-1 = 580 SF. B = 3513 SF. TOTAL = 1,423 SF.

V-B - COMBUSTIBLE, INFROTECTED MIXED USE NON-SEPARATED A-3 - ASSEMBLY

POCL EXISTRATION OF THE POCL E

TOTAL BUILDING OCCUPANT LOAD: 185

2017 NATIONAL ELECTRIC CODE W AHENDMENTS

2018 INTERNATIONAL BRE CODE W AMENDMENTS

2018 STATE OF ILLINOIS ACCESSIBILITY CODE

COMMNITY CRITIST OCCUPANT LOAD. ASSERBLY ABEA, MOOL. L CHANGING ROOMS).

PER LILINOIS PLIMBING CODE,

RESCRICTOR MODIFICATION CODE,

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SCOPE OF HORK; NEN 1,423 S.F. COMMUNITY CENTER BUILDING EQUIPPED HITH FIRE SE CONSTRUCTION TO BE V-B COMBUSTIBLE, WPROTECTED.

GENERAL NOTES

I. ALL HORK SHALL COMPLY WITH THE RULE AND RESULATIONS OF APPLICABLE BUILDING AND ZONING CODES AND ALL OTHER AUTHORITIES HAVING LIRISDICTION.

4. THE CONTRACTOR SHALL SUARANTEE FOR A PERIOD OF ONE (I) YEAR AFTER DATE OF HORK ACCEPTANCE AND IT IS INDRESSTOOD BY HIS ACCEPTANCE OF THE CONTRACT THAT HE HILL HAVE BOODD ANY AND ALL MORK HRICH IN ANY NAY BECOMES DEEDLITHE AS TO THE GUALITY OF MATERIALS AND HORKMANSHIP FOR ANY CAUSE OTHER THAN ORDINARY HOW AND TEAR.

BOTTOM OF BALANCE BOARD BITMINOUS BUILDING BLOCKING BEAM BOTTOM BASEMENT BETWEEN

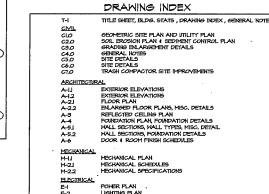
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- 9. N.L.C. INDICATES NOT IN CONTRACT.

2). ALL DRYWALL PARTITION DIMENSIONS ARE TO FINISH FACE OF STPSUM SOARD UNLESS SPECIFICALLY DETAILED OR NOTED OTHERWISE ON THE

25, ALL SHITCHES AND CONTROLS FOR LIGHTS, HEAT, VEHTILATION, HINDON DRAPERIES AND ALL SIMILAR CONTROLS OF REGUENT OR ESSENTIAL USE SHALL BE PLACED HITHIN REACH OF INDIVIDUALS IN IMPELICIAIRS(46)\* ABOVE THE FLOOR - MAY.)







ARCHITECT

DATE: APRIL 22, 2019 EXPIRES, NOVE-18ER 30, 2020

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GEOMETRIC SITE PLAN AND UTILITY PLAN SOIL BROSION PLAN & SEDIMENT CONTROL PLAN GRADING BLARGE-BUT DETAILS GRIERAL KOTES SITE DETAILS SITE DETAILS TRASH COMPACTOR SITE IMPROVEMENTS

COMPLIANCE STATEMENT



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Date 4/22/19

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ABBREVIATIONS

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OVER HEAD
OFFOSITE

GUARRY TILE

EGRESS PLAN

ROOF DEAD LOAD:

MAX TRAVEL DISTANCE A-3 USE GROUP: 250'-0'

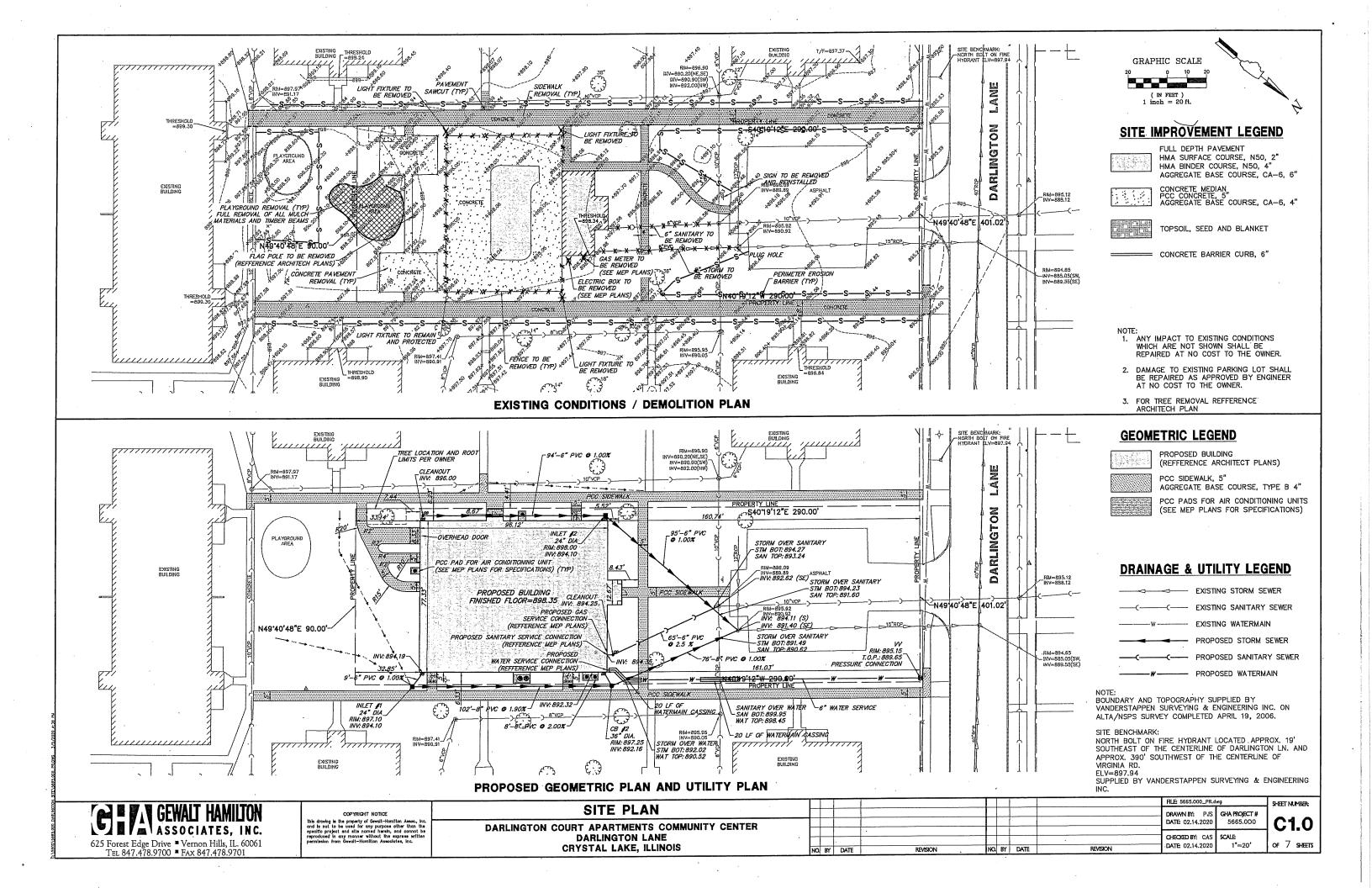
NEM COMMINITY CENTER FOR.
DARLINGTON COURT APARTMENTS
DARLINGTON LANE
CRYSTAL LAKE, ILLINOIS 60014

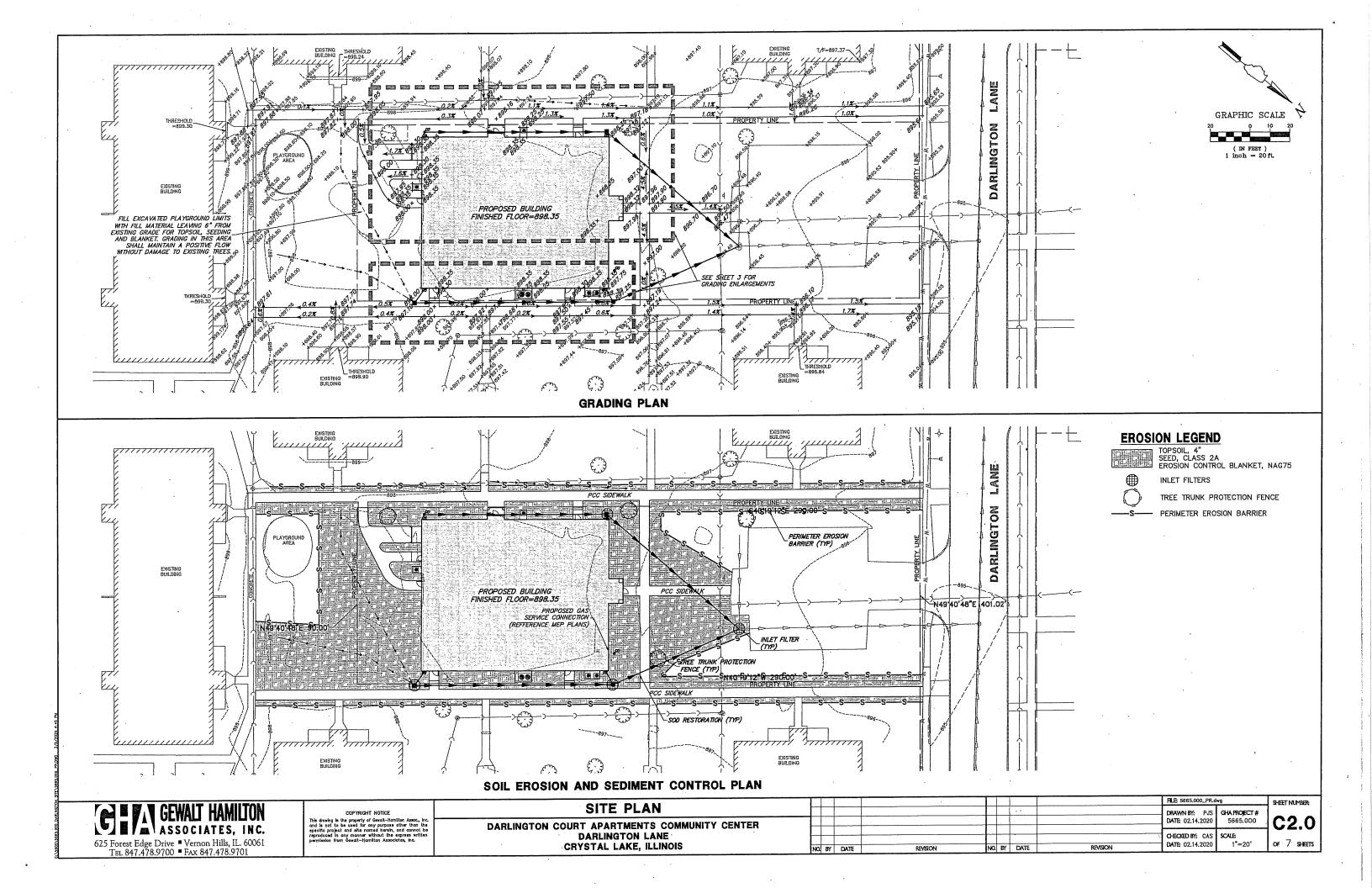
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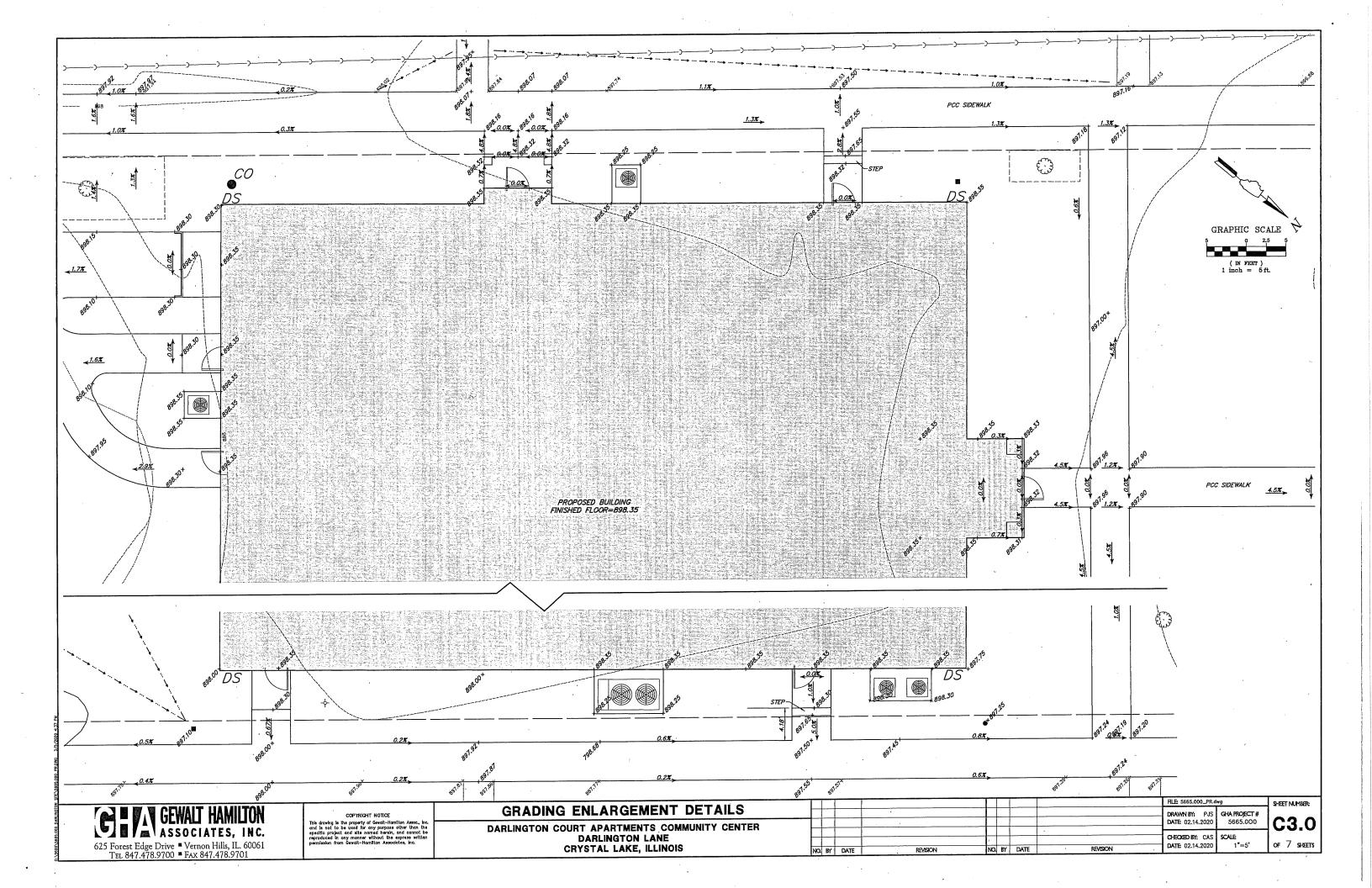
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JSTOX 2108 M. Johnsk Johnsburg, Illinol  $\overline{0}$ 







### GENERAL NOTES

- 1. ALL CONSTRUCTION SHALL BE PERFORMED ACCORDING TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION, THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" LATEST EDITION, THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS" LATEST EDITION, THE DETAILS IN THESE PLANS, THE CONTRACT DOCUMENTS, ALL APPLICABLE REQUIREMENTS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION, THE IEPA AND ORDINANCES OF AUTHORITIES HAVING JURISDICTION AND ALL ADDENDA THERETO.
- 2. EASEMENTS FOR THE EXISTING UTILITIES, BOTH PUBLIC AND PRIVATE AND UTILITIES WITHIN PUBLIC RIGHTS-OF-WAY ARE SHOWN ON THE PLANS ACCORDING TO AVAILABLE RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION IN THE FIELD OF THESE UTILITY LINES AND THEIR PROTECTION FROM DAMAGE DUE TO CONSTRUCTION OPERATIONS. IF EXISTING UTILITY LINES OF ANY NATURE ARE ENCOUNTERED WHICH CONFLICT WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
- 3. WHENEVER, DURING CONSTRUCTION OPERATIONS, ANY LOOSE MATERIAL IS DEPOSITED IN THE FLOW LINE OF GUTTERS, DRAINAGE STRUCTURES, DITCHES, ETC. SUCH THAT THE NATURAL FLOW LINE OF WATER IS OBSTRUCTED, THE LOOSE MATERIAL WILL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE FROM DIRT AND DEBRIS. THIS WORK SHALL BE CONSIDERED INCLUDED IN THE CONTRACT. THE CONTRACTOR'S FAILURE TO PROVIDE THE ABOVE WILL PRECLUDE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIALS CREATED AS A RESULT THEREOF.
- 4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AFFECTING THEIR WORK WITH THE ACTUAL CONDITIONS AT THE JOB SITE PRIOR TO ORDERING MATERIALS. IN ADDITION, THE CONTRACTOR MUST VERIFY THE LINE AND GRADES. IF THERE ARE ANY DISCREPANCIES FROM WHAT IS SHOWN ON THE CONSTRUCTION PLANS, STANDARD SPECIFICATIONS AND/OR SPECIAL DETAILS, THE CONTRACTOR SHALL SECURE WRITTEN INSTRUCTION FROM THE ENGINEER PRIOR TO PROCEEDING WITH ANY PART OF THE WORK AFFECTED BY OMISSION OR DISCREPANCIES. FAILING TO SECURE SUCH INSTRUCTION, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT HIS/HER OWN RISK AND EXPENSE AND NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR ANY COSTS INCURRED.
- 5. ALL PAVEMENT DIMENSIONS ARE SHOWN TO EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
- 6. WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE THE MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 72 HOURS PRIOR TO BEGINNING WORK.
- 8. IF DURING CONSTRUCTION THE CONTRACTOR ENCOUNTERS OR OTHERWISE BECOMES AWARE OF ANY SEWERS OR UNDERDRAINS OTHER THAN THOSE SHOWN ON THE PLANS, HE/SHE SHALL INFORM THE ENGINEER, WHO SHALL DIRECT THE WORK NECESSARY TO MAINTAIN OR REPLACE THE FACILITIES IN SERVICE AND TO PROTECT THEM FROM DAMAGE DURING CONSTRUCTION IF MAINTAINED. EXISTING FACILITIES TO BE MAINTAINED THAT ARE DAMAGED BECAUSE OF NON—COMPLIANCE WITH THIS PROVISION SHALL BE REPLACED AT THE CONTRACTOR'S OWN EXPENSE.
- 9. THE CONTRACTOR SHALL PROVIDE TEMPORARY TOILET FACILITIES AND HAND SANITIZING STATIONS FOR THE USE OF ALL THE CONTRACTORS PERSONNEL EMPLOYED ON THE WORK SITE. THE FACILITIES SHALL BE MAINTAINED IN PROPER SANITARY CONDITION THROUGHOUT THE PROJECT. THE LOCATION OF THE TEMPORARY FACILITIES SHALL BE
- 10. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE NPDES PERMIT AND SWPPP MANUAL. IF NO NPDES PERMIT OR SWPPP MANUAL IS NEEDED FOR THE PROJECT THE CONTRACTOR SHALL PERFORM SOIL EROSION SEDIMENT CONTROL BEST PRACTICES OR AS DIRECTED BY THE ENGINEER TO PREVENT ILLICIT DISCHARGES FROM THE SITE.
- 11. CONTRACTOR TO PROVIDE TRAFFIC CONTROL BOTH ONSITE AND OFFSITE AS NEEDED.
- 12. STREET IS TO BE KEPT CLEAN THROUGHOUT CONSTRUCTION.
- 13. ANY CHANGES FROM APPROVED PLANS MUST BE REVIEWED BY THE CITY COMMUNITY DEVELOPMENT DEPARTMENT BEFORE PROCEEDING.
- 4. JULIE LOCATES MUST BE MARKED PRIOR TO ANY WORK BEING PERFORMED.
- ANY DAMAGE TO CITY SIDEWALKS, CURBS, STREETS, OR ANY STRUCTURES WITHIN THE RIGHT—OF—WAY IS TO BE REPAIRED PRIOR TO FINAL INSPECTION.
- 16. DO NOT STORE, STAGE, OR DUMP ANY MATERIALS ON CITY RIGHT-OF-WAY WITHIN ANY EASEMENTS.

### PROJECT SPECIFIC NOTES

- ALL WORK PERFORMED UNDER THIS CONTRACT SHALL BE GUARANTEED BY THE CONTRACTOR AND HIS SURETY FOR A PERIOD OF 24 MONTHS FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE WORK BY THE OWNER AGAINST ALL DEFECTS IN MATERIALS AND WORKMANSHIP OF WHATEVER NATURE.
- ALL CONSTRUCTION WILL BE INSPECTED BY THE OWNER'S REPRESENTATIVE. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE MUNICIPALITY AS WELL AS THE STANDARD SPECIFICATIONS.
- 3. THE SEWER AND WATER CONTRACTOR SHALL BE REQUIRED TO BE LICENSED AND BONDED WITH THE CITY OF CRYSTAL LAKE BEFORE WORK IS STARTED.
- CONTRACTOR SHALL NOTIFY THE CITY OF CRYSTAL LAKE (815-459-2020) AND THE PROJECT ENGINEER (847-478-9700) AT LEAST 72 HOURS PRIOR TO BEGINNING ANY WORK ON THIS PROJECT.
- 5. ALL ELEVATIONS ARE ON NAVO 88 VERTICAL DATUM.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL TRAFFIC CONTROL TO ADEQUATELY INFORM AND PROTECT THE PUBLIC OF ALL CONSTRUCTION OFFRATIONS.
- 7. STOCKPILING MATERIAL WITHIN THE 100 YEAR FLOOD PLAIN AND OR THE FLOODWAY IS
- 8. ALL PAVEMENT AND BUILDING SUBGRADE SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY (ASTM D-1557). ALL SUBGRADE IN LAWN AREAS SHALL BE COMPACTED TO 90% MODIFIED PROCTOR DENSITY (ASTM D-1557). TOPSOIL AND SUBGRADE 6 BELOW TOPSOIL SHALL BE COMPACTED TO 80% STANDARD PROCTOR DENSITY (ASTM D-698).
- 9. ALL STONE USED ON THE PROJECT SHALL BE CRUSHED UNLESS SPECIFICALLY NOTED OTHERWISE
- 10. ALL CONCRETE SHALL HAVE A LIGHT BROOM FINISH APPLIED WITHIN 1 HOUR OF FINAL STRIKING.
- 11. SEE ARCHITECTURAL SPECIFICATIONS FOR CONCRETE MIX DESIGN.
- ALL CONCRETE SHALL HAVE A WHITE, IDOT TYPE 3 CURING COMPOUND APPLIED TO THE SURFACE WITHIN 1 HOUR OF FINAL STRIKING AT THE MANUFACTURER RECOMMENDED APPLICATION RATE.
- 13. 3/4" THICK PRE-MOLDED FIBER EXPANSION JOINTS WITH 2, 3/4" x 18" PLAIN ROUND, STEEL DOWEL BARS SHAIL BE INSTALLED IN ALL CURBS AT (45') FIFTY FOOT INTERVALS AND AT ALL P.C.'S, P.T.'S AND CURB RETURNS, ALTERNATE ENDS OF THE OWEL BARS SHALL BE GREASED AND HITTED WITH METAL EXPANSION TUBES, ALL EXPANSION JOINTS MUST BE FREE OF CONCRETE FOR FULL DEPTH. CONTRACTION JOINTS SHALL BE TOOLED AT 15' INTERVALS.
- 4. UNLESS OTHERWISE NOTED ON THE PLANS WHENEVER NEW CONCRETE ABUTS EXISTING/ OR NEW CONCRETE SET A 1/2" THICK PRE—MOLDED FIBER EXPANSION JOINT AND DOWEL WITH SMOOTH 12" #4 BARS © 24" O.C. THIS INCLUDES CONCRETE POURED ADJACENT TO EXISTING SIDEWALKS, CURBS AND BUILDING. THE DOWEL BARS SHOULD BE 4" INTO EXISTING CONCRETE WITH 8" EXTENDING INTO NEW CONCRETE.
- 15. ALL DOWEL BARS AND TIE BARS SHALL BE EPOXY COATED UNLESS NOTED OTHERWISE.
- 16. CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY PRIOR TO PROJECT CLOSEOUT.

### EROSION CONTROL NOTES

- 1: AT A MINIMUM, THE CONTRACTOR SHALL INSTALL AND MAINTAIN SOIL EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE LATEST EDITION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S URBAN MANUAL.
- 2. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS.
- 3. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ANY ROAD OF MATERIAL THAT IS FROM THE PROJECT. THIS WILL BE DONE AT THE CLOSE OF EACH DAY OF WORK OR MORE FREQUENTLY AS FIELD CONDITIONS WARRANT.
- ALL STORM WATER STRUCTURES WITH OPEN LIDS SHALL BE PROTECTED WITH INLET FILTER
  BASKETS. DURING CONSTRUCTION, SEDIMENT SHALL BE REMOVED AS NEEDED, AND
  BASKETS SHALL BE REPAIRED OR REPLACED AS NEEDED.
- 5. AFTER ACHIEVING PERMANENT VEGETATION, ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE REMOVED, AND THE DRAINAGE STRUCTURES SHALL BE CLEANED.
- 3. THE CONTRACTOR SHALL KEEP A WATER SOURCE AT THEIR DISPOSAL FOR THE PURPOSE OF WATERING DOWN SOIL ON SITE AND ADJACENT ROADWAYS WHICH OTHERWISE MAY BECOME
- . THE CONTRACTOR SHALL STABILIZE ALL IDLE, DISTURBED AREAS WITHIN SEVEN DAYS OF CESSATION OF THE CONSTRUCTION ACTIVITIES IN THAT AREA.
- 8. THE CONTRACTOR IS EXPRESSLY ADVISED NOT TO DISTURB AREAS WHICH ARE OUTSIDE THOSE NECESSARY TO PROVIDE THE IMPROVEMENTS AS CALLED FOR IN THE PLANS.
- 9. ALL EROSION CONTROL MEASURES SHALL BE REPLACED IF DAMAGED OR MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.
- 10. ALL BYPASS CHANNELS, MUST BE CONSTRUCTED SO THAT CHANNEL FLOWS WILL NOT CAUSE EROSION OF EXCAVATED MATERIAL. IN EACH CASE A SEDIMENTATION BASIN MUST BE CONSTRUCTED SO AS TO ALLOW THE SEDIMENT TO SETTLE PRIOR TO THE DOWNSTREAM OUTLET OF THE PROJECT AREA.
- 11. PUMPS MAY BE USED AS BYPASS DEVICES, BUT IN NO CASE WILL THE WATER BE DIVERTED OUTSIDE THE PROJECT LIMIT. ALL PUMPED WATER SHALL BE FREE OF SILT. PUMPING MAY REQUIRE THE USE OF A SEDIMENT CONTAINMENT FILTER BAG AND OTHER SUPPLEMENTAL SEDIMENT CONTROL MERICIPES.
- CONCRETE WASHOUT FACILITIES SHALL BE MADE AVAILABLE IF NEEDED, AND PROPERLY MAINTAINED THROUGHOUT THE PROJECT.
- 13. PROPERLY MANAGE ALL MATERIAL STORAGE AREAS, PORTABLE TOILETS, AND EQUIPMENT FUELING, CLEANING, AND MAINTENACE AREAS TO ENSURE THESE AREAS ARE FREE OF SPILLS, LEAKS, OR OTHER POTENTIAL POLLUTANTS.
- 14. WASTE, CONSTRUCTION DEBRIS, AND BUILDING MATERIALS SHALL BE COLLECTED AND PLACED IN APPROVED RECEPTACLES.

### EXISTING CONDITION AND DEMOLITION NOTES

- 1. PRIOR TO STARTING ANY CONSTRUCTION, PROVIDE SOIL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLANS AND AS REQUIRED PER IEPA NPDES GUIDELINES. REFER TO NOTES AND DETAILS THROUGHOUT THE ENTIRE PLAN SET.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FENCING THE ACTIVE WORK ZONE FROM THE PUBLIC AND PROTECTING THE PUBLIC FROM ANY CONSTRUCTION RELATED HAZARDS. AT A MINIMUM, ALL EXCAVATION, DEMOLITION AREAS AND OTHER AREAS POTENTIALLY HAZARDOUS: TO PEDESTRIANS AND VEHICLES MUST BE PROTECTED.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION AND DISPOSAL OF ALL EXISTING IMPROVEMENTS ONSITE NECESSARY TO COMPLETE THE JOB. THESE IMPROVEMENTS INCLUDE, BUT ARE NOT LIMITED TO, EXISTING PAVEMENTS, CURBS, SIDEWALKS, UTILLITIES, LIGHTING, LIGHT BASES, MANHOLES, FENCES, FOUNDATIONS, AND OTHER SITSUCTURES WITHIN THE WORK AREA. EXCAVATE AND GRADE TO PROPOSED PAVEMENT AND BUILDING SUBBASE GRADES. (REFER TO FOUNDATION PLANS FOR PROPOSED BUILDING SUBBASE GRADES.) THESE ITEMS SHALL BE COMPLETELY REMOVED AND LEGALLY DISPOSED OF
- 4. TEMPORARILY REMOVE, STORE AND PROTECT SIGN AND POSTS WITHIN AFFECTED WORK ZONE FOR REINSTALLATION. COORDINATE ONSITE STORAGE WITH PROPERTY OWNER.
- 5. THE CONTRACTOR SHALL INCLUDE ALL ASSOCIATED COSTS WITH THE REMOVAL, TRANSPORT, DISPOSAL, TESTING AND CERTIFICATION OF "UNCONTAMINATED SOIL" AS DEFINED UNDER 415 ILCS 5/3.160 INCLUDING ANY FEES, TAXES, OR SURCHARGES CHARGED BY OR THROUGH THE OPERATOR(S) OF CLEAN CONSTRUCTION OR DEMOLITION DEBISS FILL OPERATIONS OR UNCONTAMINATED SOIL FILL OPERATIONS FOR THE ACCEPTANCE OF UNCONTAMINATED SOIL.

## GEOMETRIC AND PAVING NOTES

- 1. ALL PAVEMENT DIMENSIONS ARE TO EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED. E=EDGE OF PAVEMENT, B=BACK OF CURB, F=FACE OF CURB. RADII DIMENSIONS ARE TO BACK OF CURB.
- 2.INSTALL BITUMINOUS PAVEMENT AS SHOWN. REFER TO DETAIL SHEET FOR SPECIFIC PAVEMENT SECTIONS AND GENERAL NOTE SHEET FOR CONSTRUCTION, TESTING AND COMPACTION REQUIREMENTS.
- 3.ALL PARKING LOT STALL MARKINGS SHALL MATCH EXISTING AND ALL OTHER PARKING LOT PAVEMENT MARKINGS SHALL BE PAINT, COLOR AS NOTED, IN ACCORDANCE WITH SECTION 780 OF THE IDOT STANDARD SPECIFICATIONS, (TWO SINGLE APPLICATIONS, 16 MILS EACH REQUIRED). SITE PAVEMENT MARKING SHALL BE COORDINATED WITH SITE ENGINEER. CONTRACTOR SHALL NOTIFY SITE ENGINEER 48 HRS PRIOR TO INSTALLING PAVEMENT MARKINGS REMOVED TO BE RESTORED IN KIND.
- 4.CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL SEED AND BLANKET AS NECESSARY TO MEET SOIL EROSION AND SEDIMENT CONTROL REQUIREMENTS. REFER TO NOTES AND DETAILS THROUGHOUT THE PLAN SET FOR SPECIFIC MATERIAL REQUIREMENTS.
- 5.FOR FINAL RESTORATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL DISTURBED TURF AREAS AND PROPOSED TURF AREAS AS FOLLOWS:
  - A. PRIOR TO PLACEMENT OF TOPSOIL RESTORATION AREA SUBGRADE MATERIAL SHALL "BE ROTOTILLED AND RE-COMPACTED TO A MAXIMUM OF 80% STANDARD PROCTOR TO A DEPTH OF 6".
  - B. SPREAD A MINIMUM OF 6° OF EXISTING SITE SALVAGED SCREENED TOPSOIL OR NEW PULVERIZED TOPSOIL ON ALL DISTURBED AREAS. COMPACT TO 80% STANDARD PROCITOR.
  - C. TOPSOIL MUST BE FREE OF LITTER, BRUSH, ROCKS AND EARTH CLODS OF GREATER THAN 1 INCH IN ANY DIMENSION. CONTAIN BETWEEN 1%-10% ORGANIC MATTER, 12%-50% CLAY, AND LESS THAN 55% SAND CONTENT. PH SHALL BE BETWEEN 6.0 AND 8.0.
  - D. SEED RESTORATION AREAS AS FOLLOWS:
    - IDOT CLASS 1 SEED. (LAWN MIXTURE)
       EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN S75 OR
    - EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN 373 C APPROVED EQUAL INSTALLED FOLLOWING MANUFACTURER GUIDELINES.

6.ONCE RESTORATION HAS BEEN COMPLETED, THE CONTRACTOR SHALL REMOVE EROSION CONTROL DEVICES. SILT FENCE TRENCHES SHALL BE BACKFILLED AND RESTORED IN KIND. STORM STRUCTURES SHALL BE CLEANED OF DEBRIS.

### •

| SANHARI SCYVERS       |            |                     |                             |
|-----------------------|------------|---------------------|-----------------------------|
|                       | PVC SDR 26 | PIPE:ASTM D-3034    | JOINT:ASTM D-3212 AND F-477 |
| WATER MAIN CLASS      |            |                     |                             |
| PIPE BEDDING MATERIAL | CA-11      |                     |                             |
| TRENCH BACKFILL       | CA-6       |                     |                             |
| MANHOLE CONNECTIONS   |            | ASTM: C-923         |                             |
| JOINT WRAP            | MAC WRAP   | ASTM: C-877 TYPE II |                             |

| 1E2 IMG KEMONEMENIS |  |
|---------------------|--|
| WATER MAIN          | ALL WATER MAIN SHALL HAVE A PRESSURE AND LEAKAGE TEST PERFORMED IN ACCORDANCE  |
|                     | WITH SECTION 41-2.14 OF STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN  |
|                     | ILLINOIS ACCEPT THE PRESSURE DURING THE TESTS SHALL BE EQUAL TO 150PSI.  |
| SANITARY SEWER      | ALL SANITARY SEWER SHALL BE TESTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS, ALL RIGID SANITARY SEWER PIPE SHALL BE TESTED BY EITHER METHOD A B OR C AS CUTJUNED IN SECTION 31-1.12, ALL FLEXBLE SANITARY SEWER PIPE SHALL BE TESTED BY METHOD D AND EITHER METHOD A B OR C. ALL SANITARY SEWER MUST BE TESTED BY METHOD E. THE CONTRACTOR SHALL PROVIDE THE ENGINEER A COPY OF THE VIDEO ON A DIGITAL VIDEO DISC. THE VIDEO MUST BE IN COLOR AND PROCEED NO FASTER THAN 1 FOOT PER SECOND. |
| SEWER WATER MAIN    | ALL SEWERS THAT CROSS OR RUN PARRALEL TO WATER MAINS SUBJECT TO IEPA REQUIREMENTS  |
| CROSSINGS           | FOR WATER MAIN QUALITY PIPE MUST BE PRESSURE TESTED ACCORDING TO 41-2.14 OF THE STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS   |
| SANITARY MANHOLES   | ALL SANITARY MANHOLES SHALL BE TESTED BY EITHER ASTM C-969 OR ASTM C-1244  |

NO BY DATE

### UTILITY NOTES

- UNDERGROUND WORK SHALL INCLUDE TRENCHING, DISPOSAL OF EXCESS MATERIAL, DEWATERING, INSTALLATION OF PIPE, CASTINGS, STRUCTURES, BACKFILLING OF TRENCHES AND COMPACTION, AND TESTING AS SHOWN ON THE CONSTRUCTION PLANS. FITTINGS AND ACCESSORIES NECESSARY TO COMPLETE THE WORK MAY NOT BE SPECIFIED BUT SHALL BE CONSIDERED AS INCLUDED TO THE COST OF THE CONTRACT. ALL SEWER SHALL BE INSTALLED USING A LASER AND BEGIN AT THE DOWNSTREAM END.
- MACHINE CORE ALL CONNECTIONS TO EXISTING STRUCTURES USING A CORE DRILL. HAMMERING OR SAWING OF STRUCTURES WILL NOT BE ALLOWED.
- . STONE BEDDING AND BACKFILL SHALL BE OMITTED FOR A DISTANCE OF 15 FEET UP AND DOWNSTREAM OF SEWERS DRAINING TO OR FROM PONDS OR STREAMS. THE REPLACED BEDDING SHALL BE SILTY CLAY SOIL MECHANICALLY COMPACTED TO 90% MODIFIED PROCTOR DENSITY. THE USE OF PERMEABLE SOILS WILL NOT BE PERMITTED.
- 4. ALL WORK MUST COMPLY WITH THE ILLINOIS PLUMBING CODE DATED APRIL 24, 2014.
- ALL CHANGE OF MATERIAL COUPLINGS SHALL BE STAINLESS STEEL NON-SHEAR COUPLINGS
- 5. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO INITIATING WORK. ANY DISCREPANCIES FOUND BETWEEN THE INFORMATION NOTED ON THE PLANS AND ACTUAL FIELD CONDITIONS, OR ANY CONFLICTS WITH PROPOSED IMPROVEMENTS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL NOT PROCEED ANY FURTHER UNTIL GIVEN WRITTEN CLARIFICATION ON HOW TO PROCEED.

GEWALT HAMILTON ASSOCIATES, INC. 625 Forest Edge Drive • Vernon Hills, IL. 60061

TEL 847.478.9700 FAX 847.478.9701

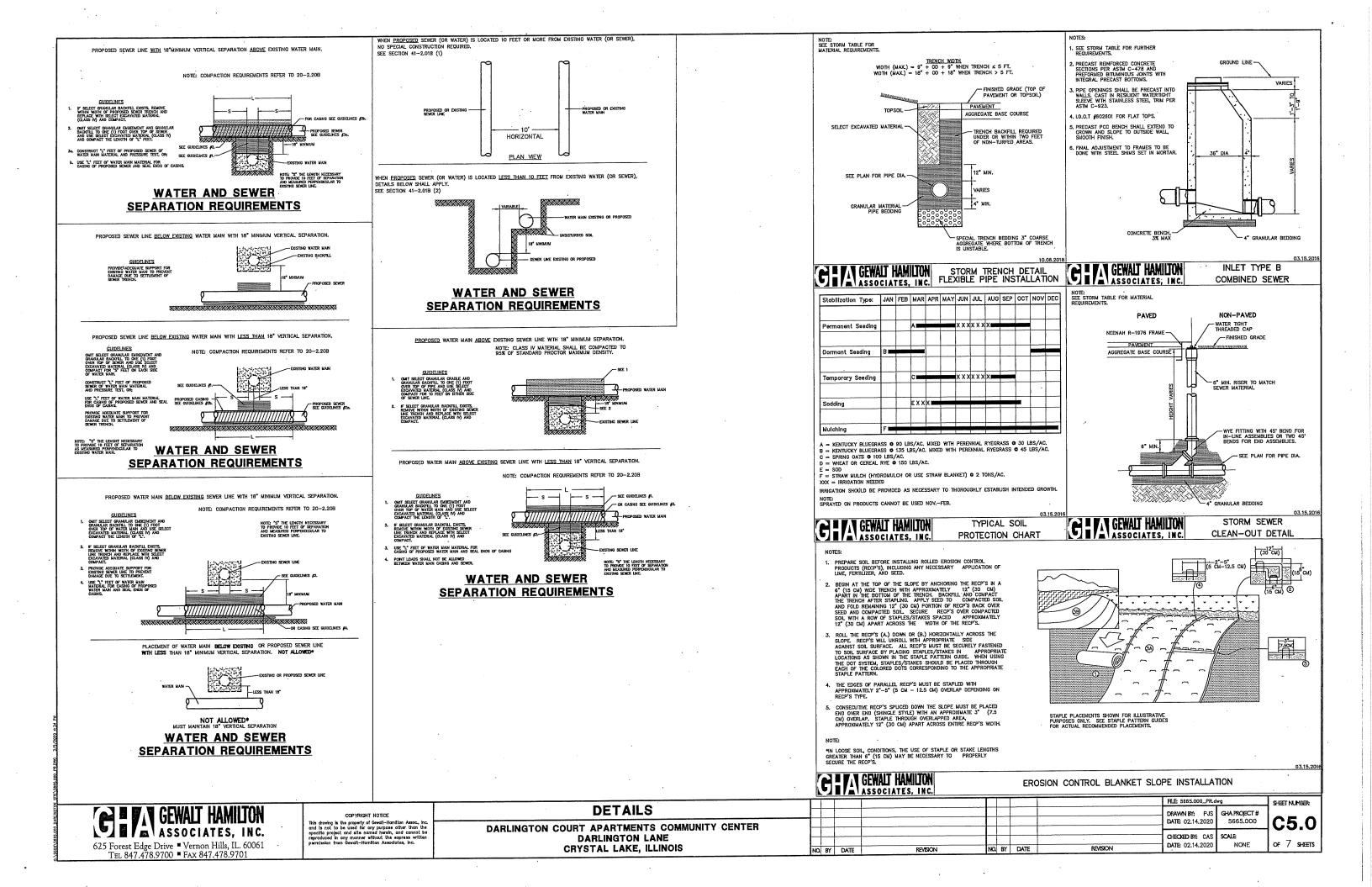
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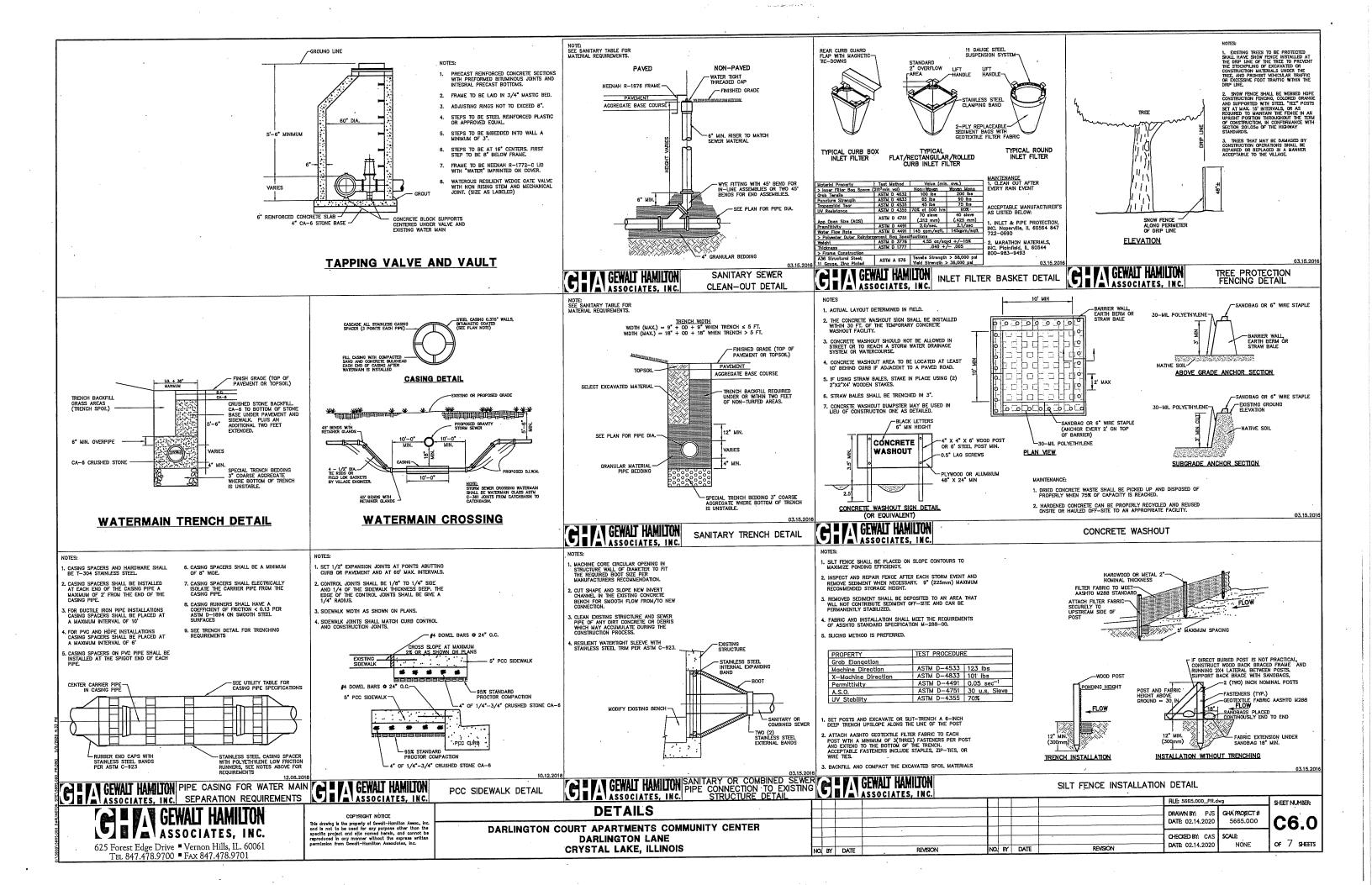
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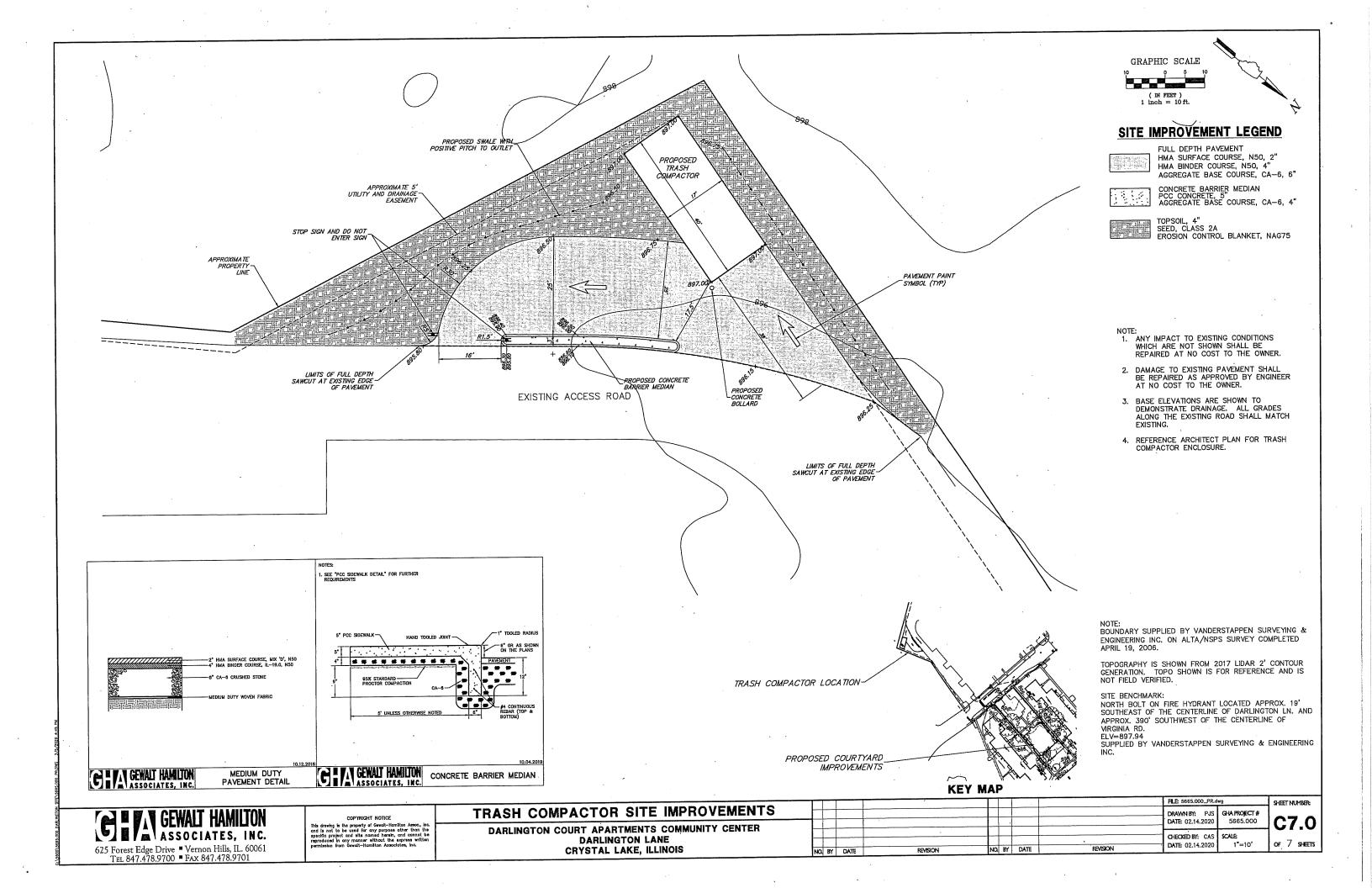
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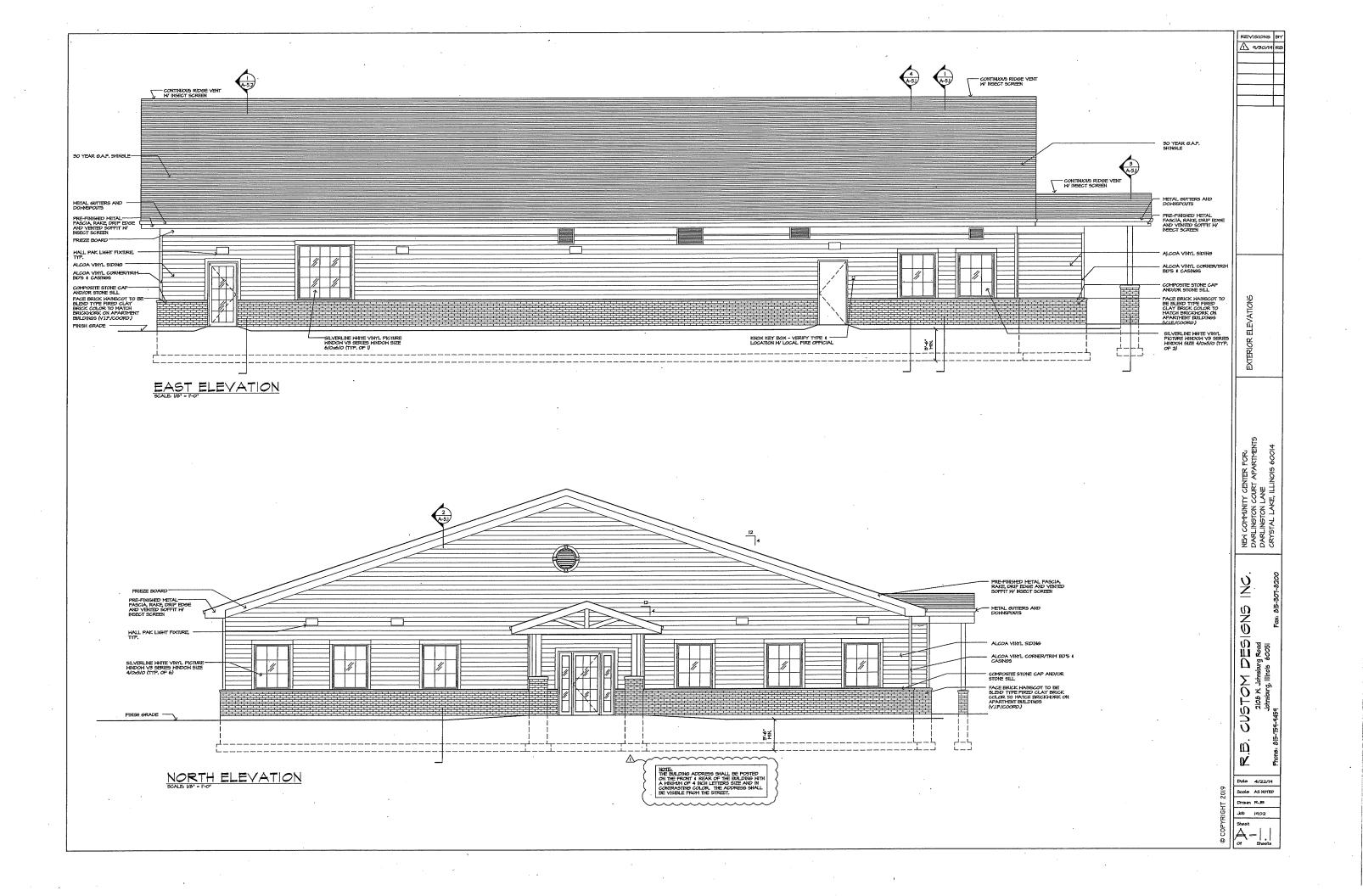
**GENERAL NOTES** 

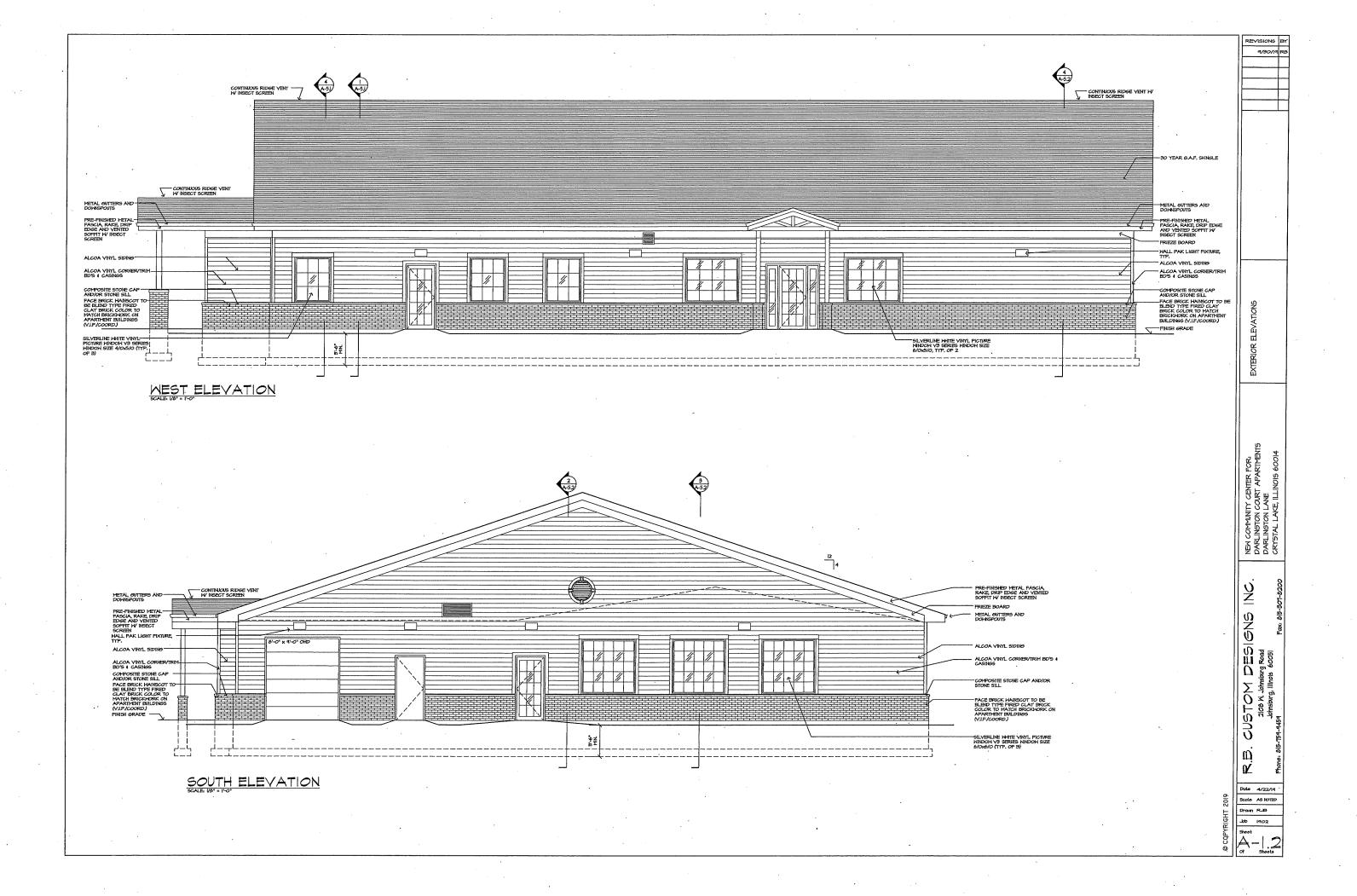
UTILITY TABLE

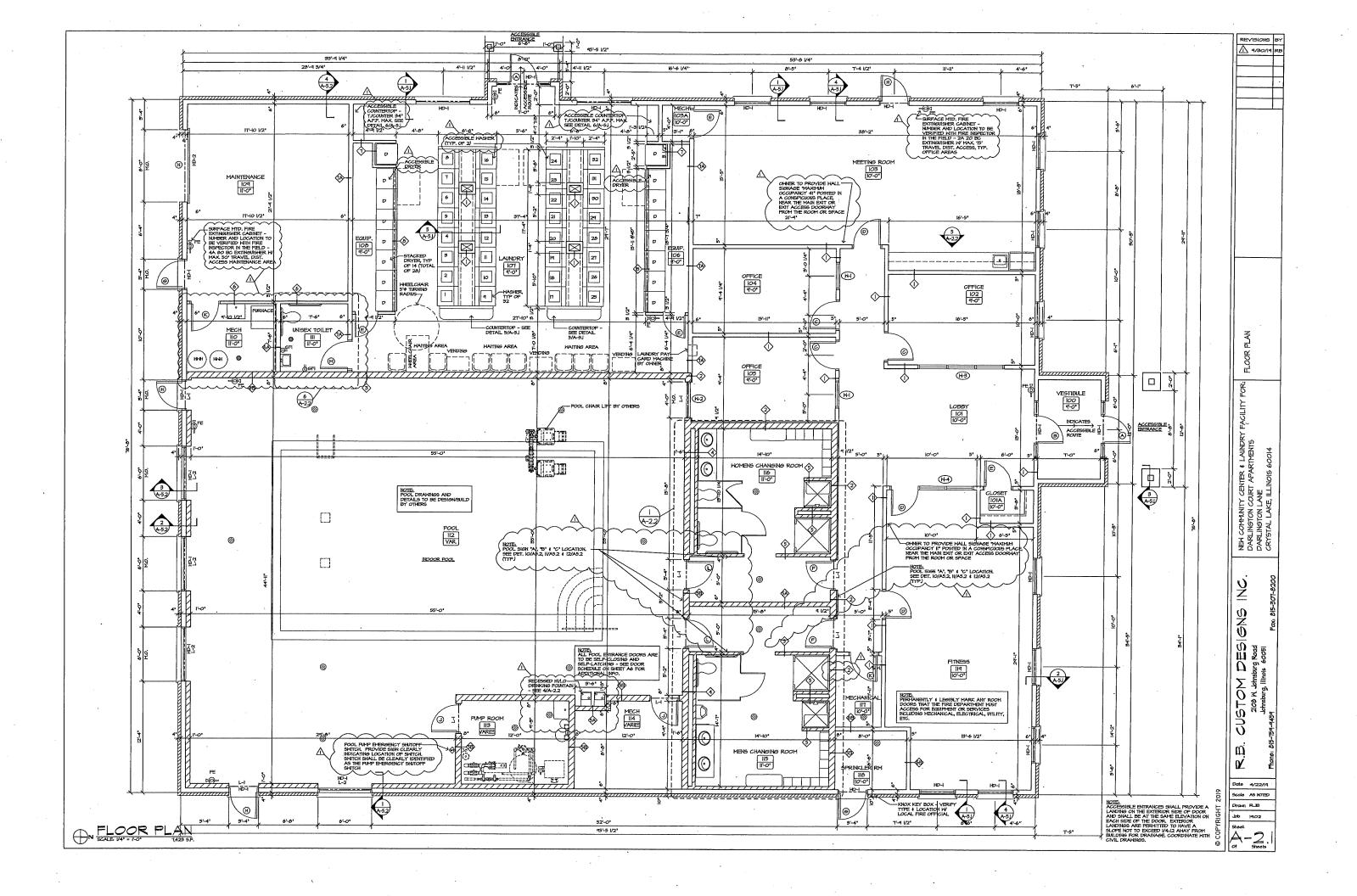


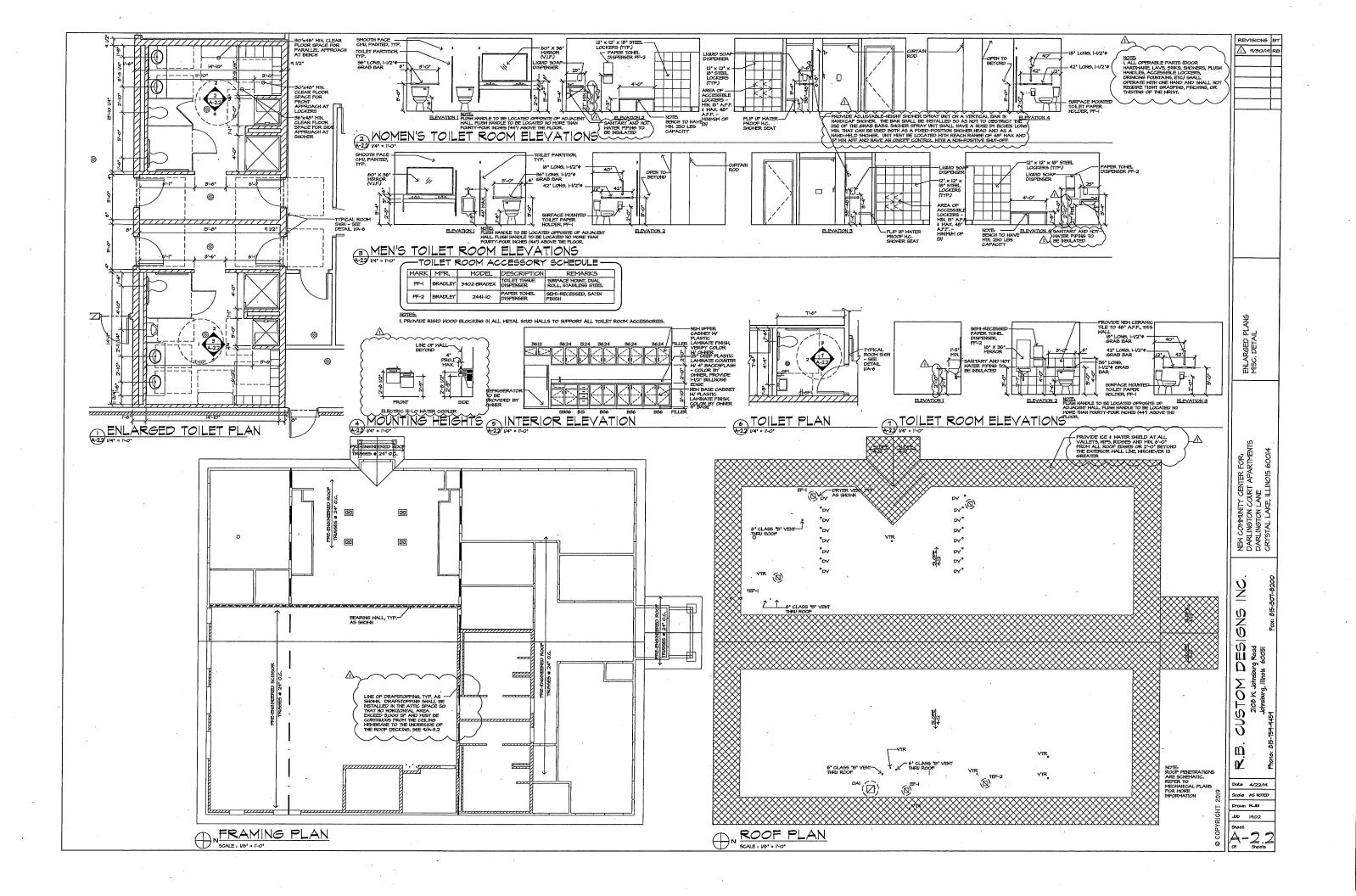


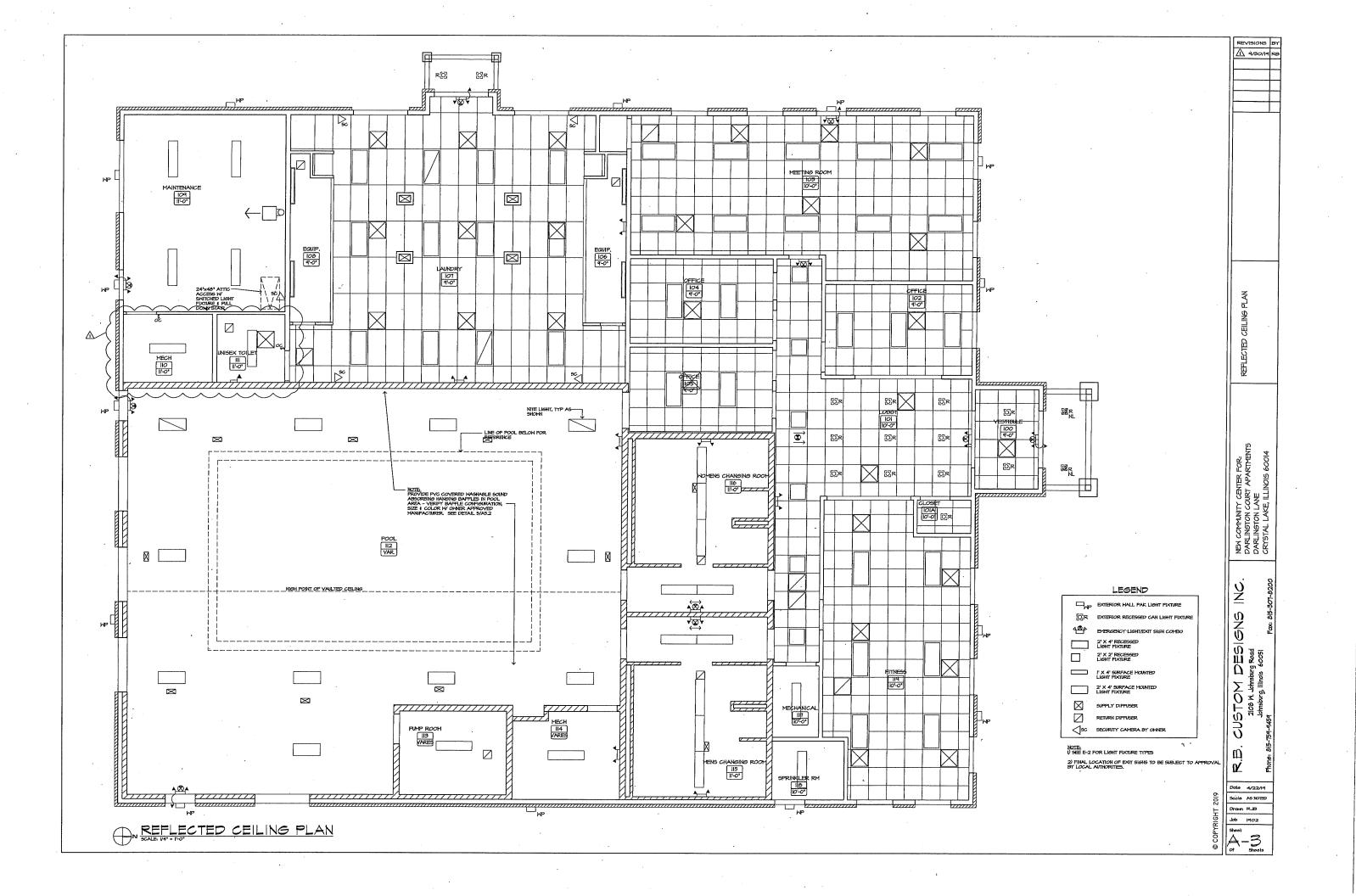


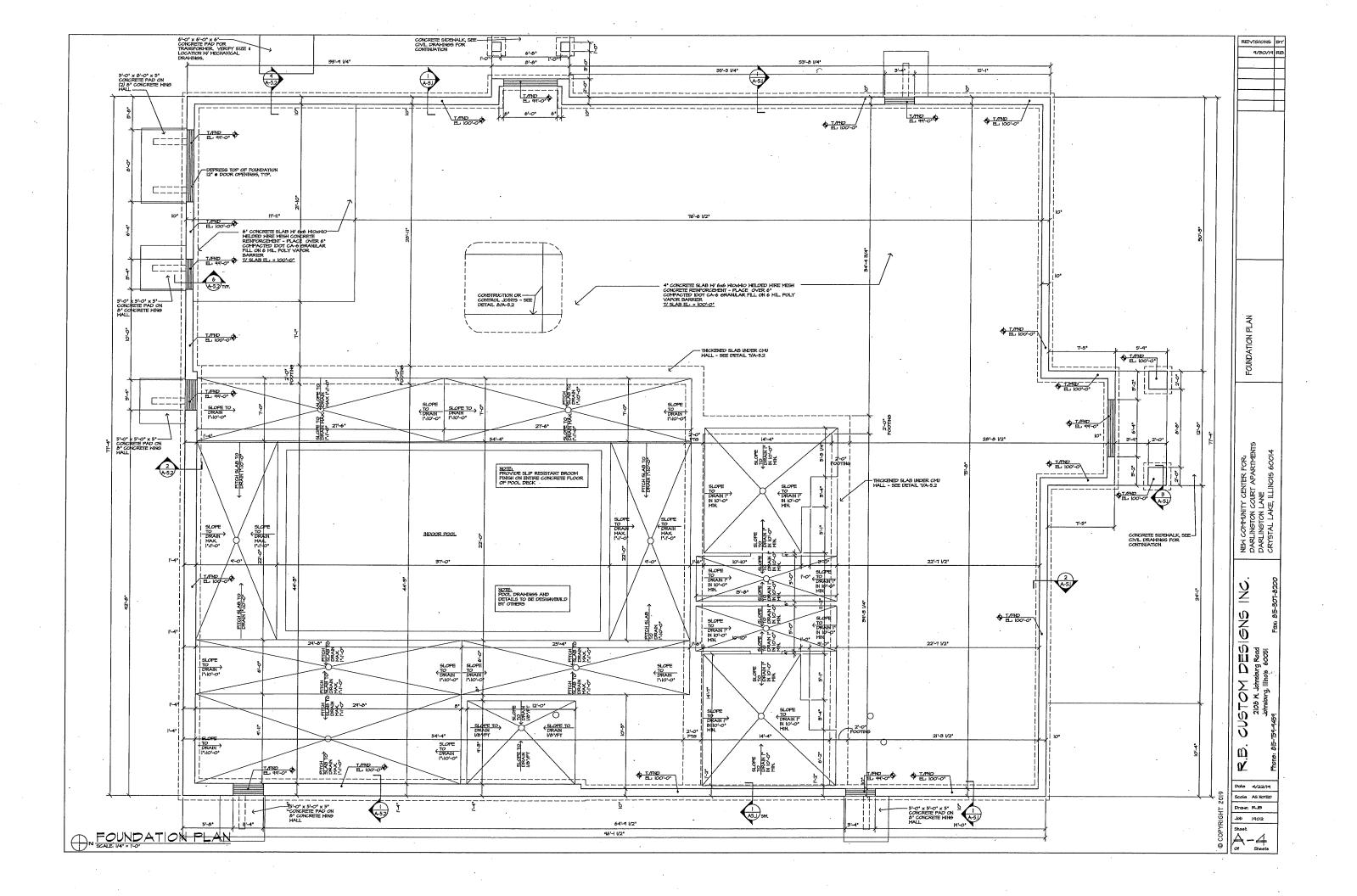


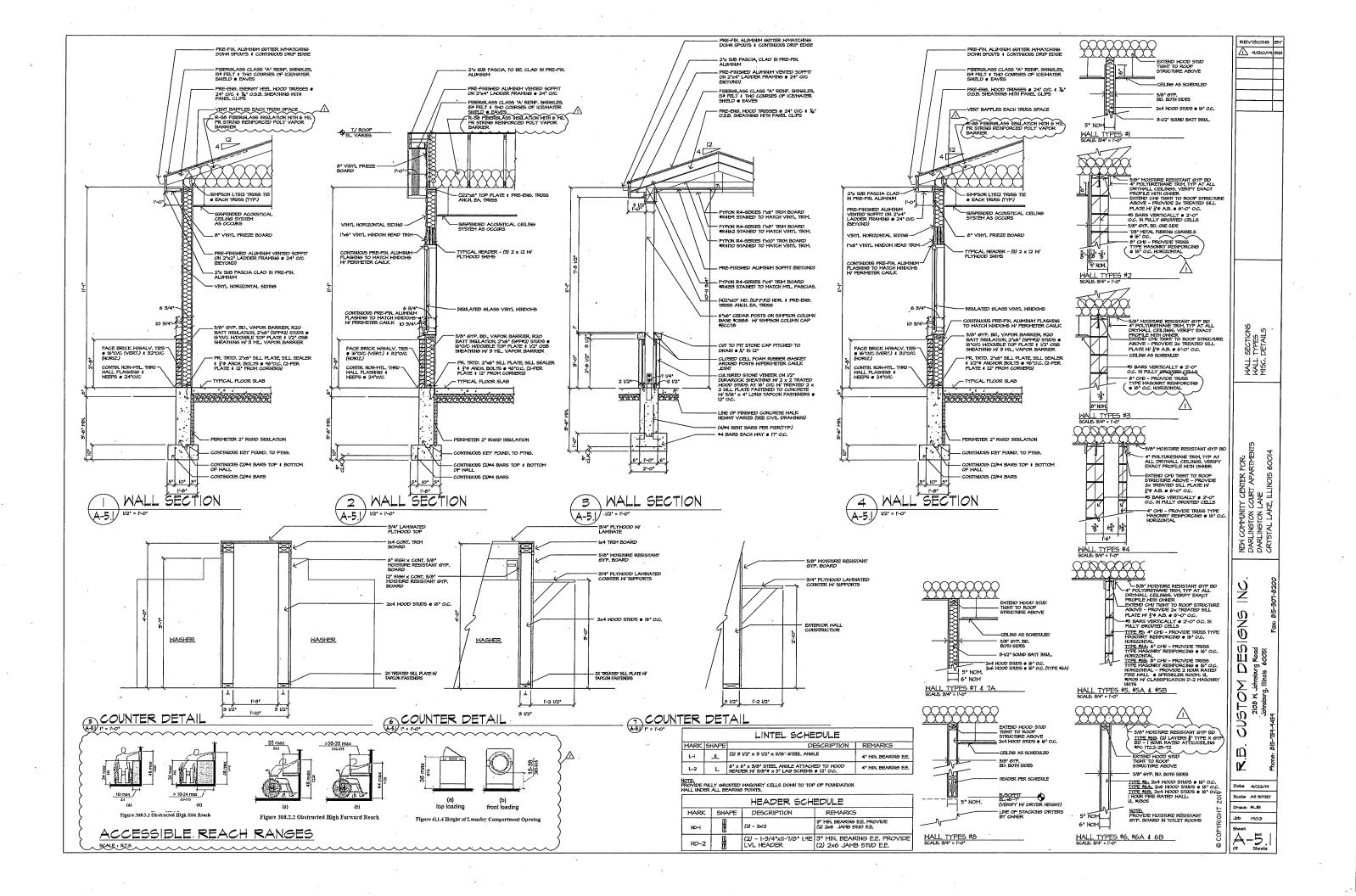


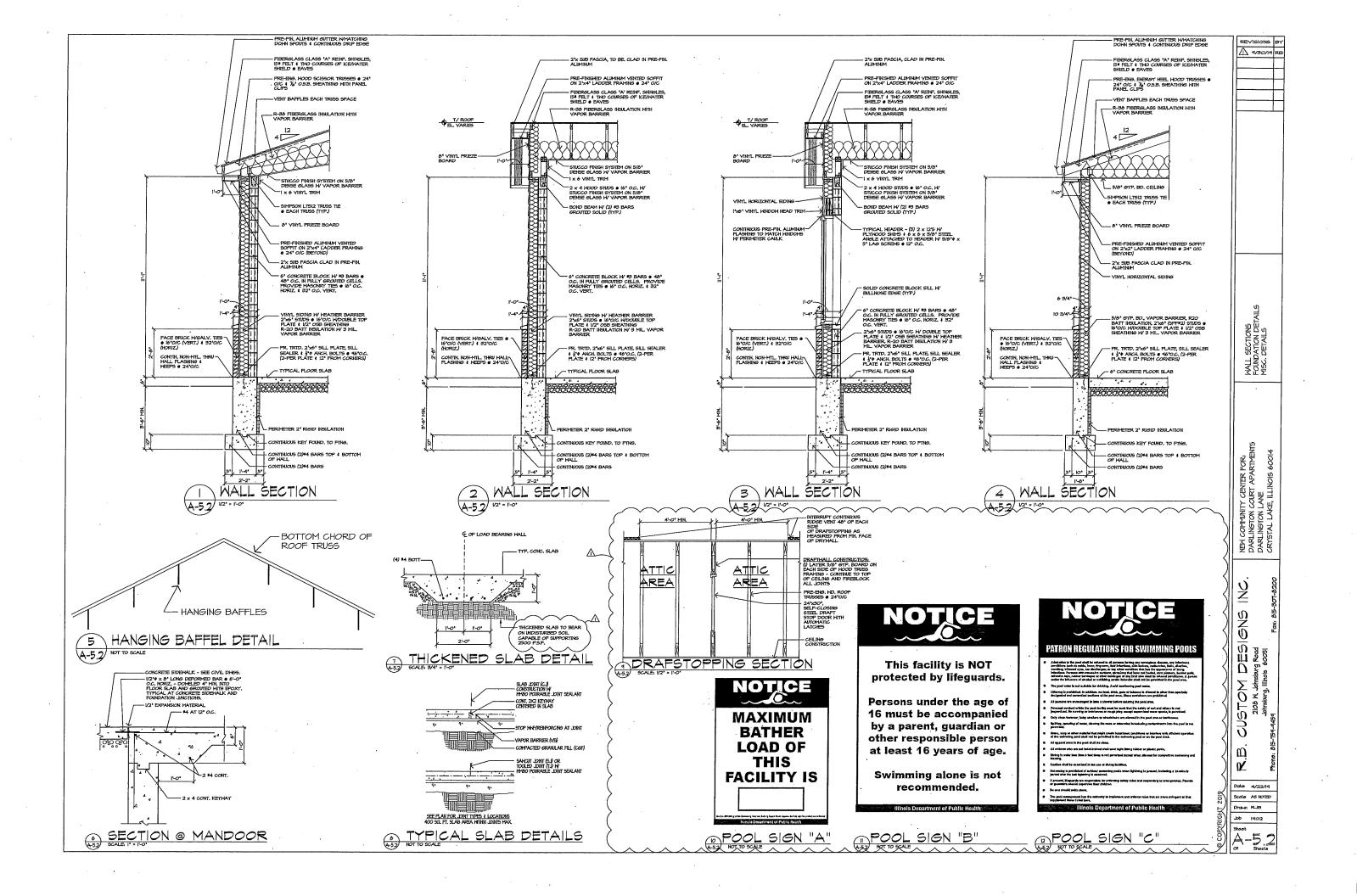


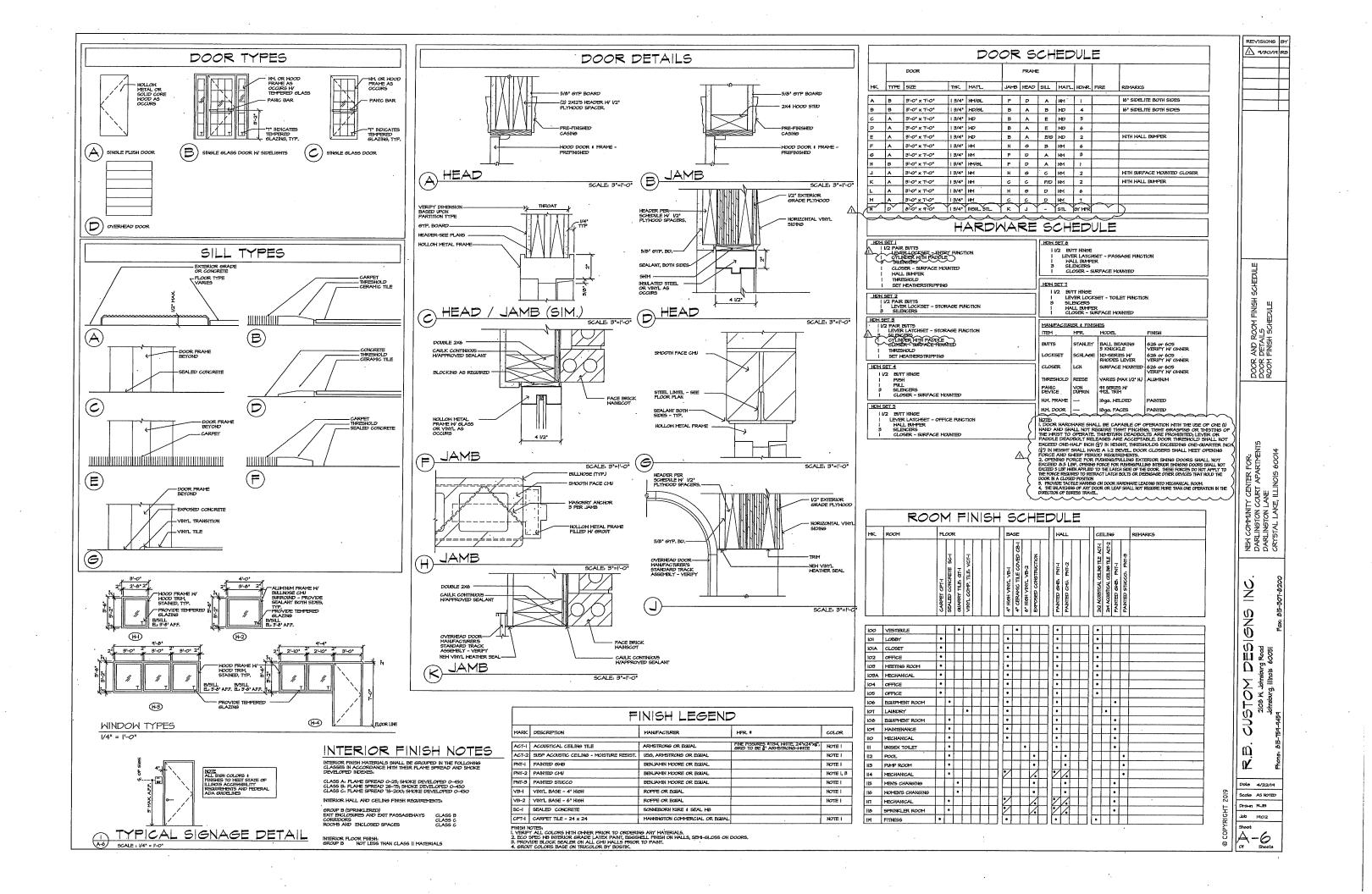


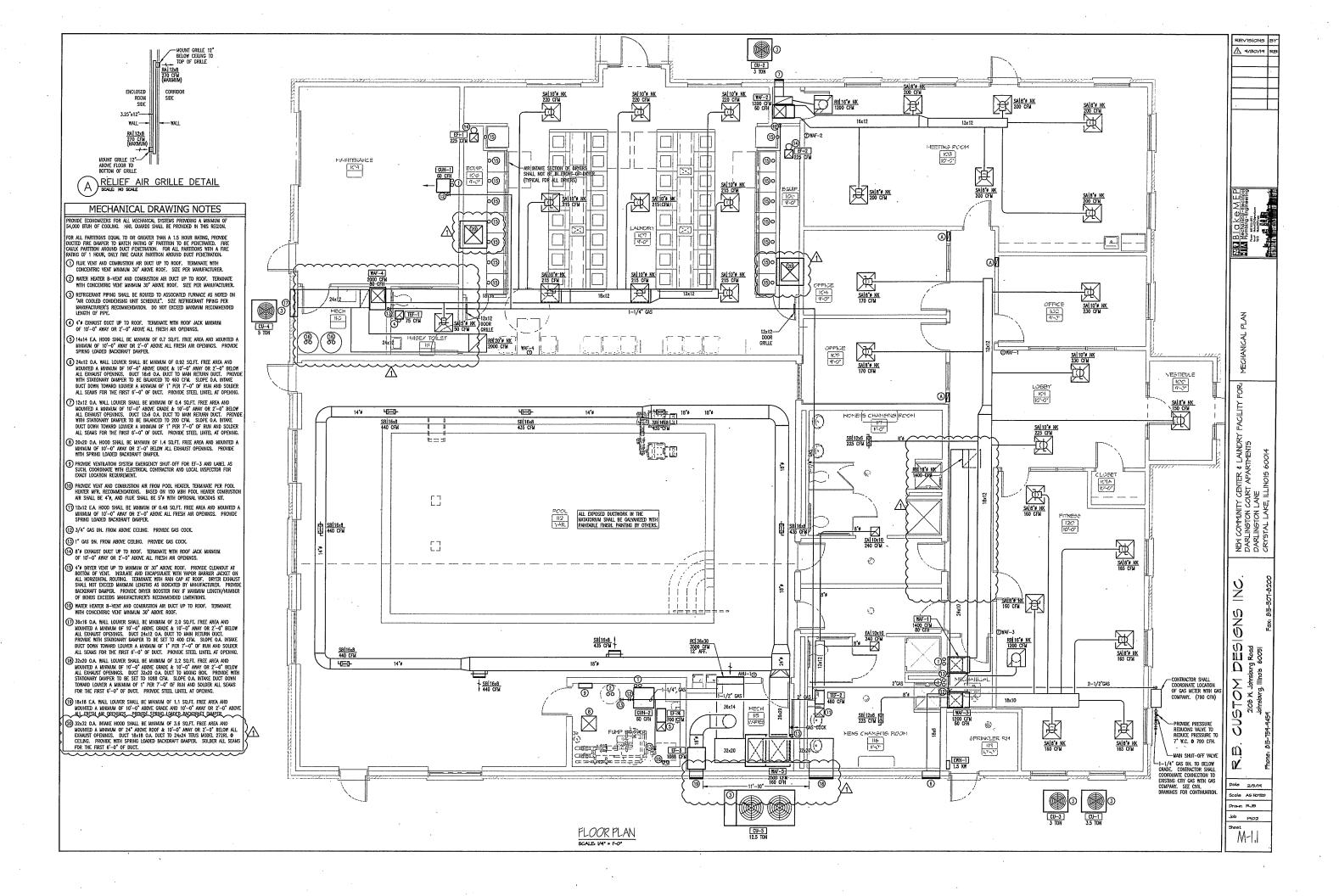












| J                        | NTERNA           | TIOI             | NAL           | MECHAI                             | VICAL (   | CODE                                | VENT           | TILA"         | TION S                             | CHE            | DULE                 |                  |              |     |
|--------------------------|------------------|------------------|---------------|------------------------------------|---|-------------------------------------|----------------|---------------|------------------------------------|----------------|----------------------|------------------|--------------|-----|
|                          |                  |                  |               |                                    | ORDIN   | ANCE REQUIR                         | ED             | ACTUA         | MINIMUMP                           | ROVIDED        | EQUIPMENT            | SERVING          |              | 1 [ |
| ROOM NAME                | OCCUPANCY TYPE   | AREA<br>(SQ.FT.) | #OF<br>PEOPLE | AIR DISTRIBUTION EFFECTIVENESS  EX | O.A.I. CFM<br>(Rp x Pz) + (Ra<br>x Az) = <u>Vbz</u> | O.A.I. CFM<br>Vbz/Ez=<br><u>Voz</u> | EXHAUST<br>CFM | SUPPLY<br>CFM | O.A.L CFM<br>Vou/Ey=<br><u>Vot</u> | EXHAUST<br>CFM | SUPPLY FAN           | EXHAUST<br>FAN   | REMARKS      |     |
| VESTIBULE 100            | CORRIDOR         | 77               | N/A           | 0.8                                | 5   | 6                                   | N.R.           | 150           | 23                                 | 0              | WAF-1                | N/A              |              | 1 1 |
| LORDVINA                 | LOSBY            | 284              | 3             | · 0.8                              | 31  | 39                                  | N.R.           | 345           | 52                                 | 0              | WAF-1                | N/A              |              | 1 [ |
| LOBBY 101                | CORRIDOR         | 158              | N/A           | 0.8                                | 9   | 12                                  | N.R.           | 110           | 17                                 | 0              | WAF-1                | N/A              |              | 1 [ |
| OFFICE 102               | OFFICE           | 164              | 1             | 0.8                                | 14  | 17                                  | N.R.           | 230           | 35                                 | 0              | WAF-1                | N/A              |              | 1 1 |
| MEETING ROOM 103         | CONFERENCE       | 635              | 32            | 1                                  | 197   | 197                                 | N.R.           | 1200          | 200                                | 0              | WAF-2                | N/A              |              | Ιľ  |
| OFFICE 104               | OFFICE           | 149              | 1             | 0.8                                | 13  | 16                                  | N.R.           | 170           | 26                                 | 0              | WAF-1                | N/A              |              | 1   |
| OFFICE 105               | OFFICE           | 149              | 1             | 0.8                                | 13  | 16                                  | N.R.           | 170           | 26                                 | 0              | WAF-1                | N/A              |              | 1 - |
| EDUIP 106                | STORAGE          | 78~              | N/A           | N/A~~                              | ~VE:~   | ~ N:B~                              | N.B.           | ~~            | ~~                                 | ~~             | N/A                  | -WA-             |              | Ι,  |
| LAUNDRY 187              | LAUNDRY          | 920              | 18            | 0.8                                | 193   | 242                                 | 276            | 1950<br>3520  | 390<br>3520                        | 450<br>3520    | WAF-4<br>INTAKEHOODS | EF-1,2<br>DRYERS |              | M   |
| EQUIP. 108               | STORAGE          | 78~              | N/A           | WA.                                | N.R.  |                                     | N.E            | ~~            | <del></del>                        | -              | N/A                  | N/A              | <del></del>  | ľ   |
| MAINTENANCE 109          | STORAGE          | 890              | N/A           | N/A                                | N.R.  | N.R.                                | N.R.           | 0             | 0                                  | 0              | N/A                  | N/A              |              |     |
| · MECHANICAL 110         | STORAGE          | 74               | N/A           | N/A                                | N.R.  | N.R.                                | N.R.           | 0             | 0                                  | 0              | N/A                  | N/A              |              |     |
| UNISEX TOILET 111        | TOILET (PRIVATE) | 56               | N/A           | 0.8                                | N.R.  | N.R.                                | 50             | 50            | 10                                 | 75             | WAF-4                | TEF-1            | INTERMITTENT |     |
| POOL 112 ·               | POOL AREA        | 2175             | N/A           | 1                                  | 1044  | 1044                                | N.R.           | 3500          | 1088                               | 1088           | WAF-5                | £F-3             |              |     |
| ELECTRICAL 113           | STORAGE          | 36               | N/A           | N/A                                | N.R.  | N.R.                                | N.R.           | 0             | 0                                  | 0              | N/A                  | N/A              |              |     |
| PUMP ROOM 114            | STORAGE          | 96               | N/A           | N/A                                | N.R.  | N.R.                                | N.R.           | 700           | 700                                | 700            | WALL LOUVER          | EF-4             |              |     |
| MECH 115                 | STORAGE          | 117              | N/A           | N/A                                | N.R.  | N.R.                                | .N.R.          | 0             | 0                                  | 0              | N/A                  | N/A              |              |     |
| MEN'S CHANGING ROOM 116  | TOILET (PUBLIC)  | 279              | N/A           | N/A                                | N.R.  | N.R.                                | 240            | 225           | 45                                 | 240            | WAF-3                | TEF-2            | HEAVYUSE     |     |
| OMEN'S CHANGING ROOM 117 | TOILET (PUBLIC)  | 279              | N/A           | N/A                                | N.R.  | N.R.                                | 240            | 225           | 34                                 | 240            | WAF-1                | TEF-2            | HEAVYUSE     |     |
| MECHANICAL 118           | 5TORAGE          | 41               | N/A           | N/A                                | N.R.  | N.R.                                | N.R.           | 0             | 0                                  | 0              | N/A                  | N/A              |              |     |
| SPRINKLER ROOM 119       | STORAGE          | 33               | N/A           | N/A                                | N.R.  | N.R.                                | N.R.           | 0             | Q                                  | 0              | N/A                  | N/A              |              |     |
| FITNESS 120              | GYM              | 518              | N/A           | 0,8                                | 155   | 194                                 | N.R.           | 975           | 195                                | 0              | WAF-3                | N/A              |              |     |
| TOTAL                    |                  | 7286             | 55            |                                    | 1674  | 1782                                | 806            | 13520         | 6358                               | 6313           |                      |                  |              |     |

| (         | GAS FIRED WARM AIR FURNACE SCHEDULE    |                 |           |         |        |          |         |             |            |      |        |         |                    |                   |                     |           |          |        |             |             |             |       |       |       |     |           |
|-----------|--|-----------------|-----------|---------|--------|----------|---------|-------------|------------|------|--------|---------|--------------------|-------------------|---------------------|-----------|----------|--------|-------------|-------------|-------------|-------|-------|-------|-----|-----------|
|           | GENERAL FAN HEATING COOLING ELECTRICAL |                 |           |         |        |          |         |             |            |      |        |         |                    |                   |                     |           |          |        |             |             |             |       |       |       |     |           |
| EQUIPMENT |  |                 |           |         |        |          |         |             |            |      |        |         |                    |                   |                     | ter(proc) | LATINGCE |        |             | 011455      | 3           | NOTES |       |       |     |           |
| TAG       | MANUFACTURER                           | MODEL           | LENGTH    | WIDTH   | HEIGHT | CFM      | CFM     | (INCHES)    | HP         | RPM  | (CFH)  | (MBH)   | DUCT DIA. (INCHES) | FLUEDIA. (INCHES) | T                   | (DEG F)   | (DEG F)  | (MBH)  | EAT (DEG F) | LAT (DEG F) | MCA         | MOCP  | PHASE | VOLIS |     |           |
| WAF-1     | CARRIER                                | 59TP5A080E17    | 214       | 29.5    | 17.5   | 35.0     | 1400    | 210         | 0.50       | 0.50 | 1075   | 80.0    | 76.0               | 5                 | 4                   | 54        | 62.25    | 116.54 | 42.0        | 80/67       | 58/56       | 9.9   | 15    | 1     | 120 | 1,2,3,4   |
| WAF-2     | CARRIER                                | 59TP5A060E17    | 183       | 29.5    | 17.5   | 35.0     | 1200    | 200         | 0.50       | 0.50 | 1075   | 60.0    | 57.0               | 5                 | 3                   | 48        | 60.83    | 108.33 | 36.0        | 80/67       | 58/56       | 9.9   | 15    | 1     | 120 | 1,2,3,4   |
| WAF-3     | CARRIER                                | 59TP5A060E17    | 183       | 29.5    | 17.5   | 35.0     | 1200    | 240         | 0.50       | 0.50 | 1075   | 60.0    | 57.0               | 5                 | 3                   | 48        | 58.00    | 105,50 | 36.0        | 80/67       | 58/56       | 9.9   | 15    | 1     | 120 | 1,2,3,4   |
| WAF-4     | CARRIER                                | 59TP5A080E21    | 214       | 29.5    | 21.0   | 35.0     | 2000    | 400         | 0.50       | 0.75 | 1075   | 80.0    | 76.0               | 5                 | 4                   | 38        | 58.00    | 96.00  | 60.0        | 80/67       | 58/56       | 12.9  | 20    | 1     | 120 | 1,2,3,4   |
| WAF-5     | AAON                                   | V3-CR8-8-A-162C | 1145      | 42-3/8  | 60-1/8 | 99-1/8   | 3500    | 1088        | 1.50       | 4.00 | 2040   | 160.0   | 153.6              | PER MANUFACTURER  | PER MANUFACTURER    | 44        | 48.58    | 92.46  | 133.4       | 85.71/72.43 | 63,54/61.59 | 11.0  | 15    | 3     | 208 | 1,2,3,4,5 |
| NOTES     | 1. PROVIDE MATCH                       | NG CARRIER CNPV | X COOLING | 3 COIL  |        | 3. PROVI | DE 3/4" | CONDENSATE  | PIPEROUTE  | אסדכ | EAREST | FLOOR ( | RAIN               |                   | 5. PROVIDE 1 HP COM | BUSTION   | AIRFAN.  |        |             |             |             |       |       |       |     |           |
|           | 2. PROVIDE HEATING                     | S/COOLING PROGR | MMABLET   | HERMOST | AT     | 4. CLEAR | NCEFC   | R FURNACE M | UST CONFOR | RMTO | MANU   | ACTURE  | R'S REQUIR         | ements.           |                     |           |          |        |             | -           |             |       |       |       |     |           |
|           |  |                 |           |         |        |          |         |             |            |      |        |         |                    |                   |                     |           |          |        |             |             |             |       |       |       |     |           |

|  |   |          |                    |                       |        |            |           | COI      | NDEN    | ISING       | UN    | IJΤ   | SCHEDU      | JLE         |      |      |      |       |         |          |               |      |       |       |         |         |
|--|---|----------|--------------------|-----------------------|--------|------------|-----------|----------|---------|-------------|-------|-------|-------------|-------------|------|------|------|-------|---------|----------|---------------|------|-------|-------|---------|---------|
|  | GENERAL COMPRESSOR CONDENSER FAN COOLING ELECTRICAL |          |                    |                       |        |            |           |          |         |             |       |       |             |             |      |      |      |       |         |          |               |      |       |       |         |         |
| EQUIPMENT LOCATION UNIT MANUFACTURER MODEL STAGES WEIGHT DIMENSIONS (INCHES) |   |          |                    |                       |        |            |           |          |         |             |       | НР    | REFRIGERANT | QUANTITY CE | ***  | MC   | TOR  | TOTAL | EAT     | SEER     | REFRIGERANT   |      | ***** | PHASE | VOLTS   | NOTES   |
| TAG  | LOCATION  | SERVED   | MANUFACTURER       | MODEL                 | SIAGES | (LBS.)     | LENGTH    | WIDTH    | HEIGHT  | QUANTITY    | TONS  | HP    | TYPE        | QUANISIY    | CFM  | HP   | RPM  | (MBH) | (DEG F) | SEER     | WEIGHT (LBS.) | MCA  | MUCP  | PHASE | VOCIS   |         |
| CU-1   | GRADE   | WAF-1    | CARRIER            | 24HNB542              | 2      | 311        | 35        | 35       | 30.4375 | 1           | 3.5   | 3.5   | R-410A      | 1           | 3810 | 0.20 | 800  | 42.0  | 95      | 15.3     | 8.9           | 27.6 | 40    | 1     | 208/240 | 1,2,3,4 |
| CU-2   | GRADE   | WAF-2    | CARRIER            | 24HNB536              | 2      | 279        | 35        | 35       | 37.25   | 1           | 3,0   | 3.0   | R-410A      | 1           | 3810 | 0.20 | 800  | 36.D  | 95      | 15.3     | 7.4           | 22.1 | 35    | 1     | 208/240 | 1,2,3,4 |
| CU-3   | GRADE   | WAF-3    | CARRIER            | 24HNB536              | 2      | 279        | 35        | 35       | 37.25   | 1           | 3.0   | 3,0   | R-410A      | 1           | 3810 | 0.20 | 800  | 36.0  | 95      | 15.3     | 7.4           | 22.1 | 35    | 1     | 208/240 | 1,2,3,4 |
| CU-4   | GRADE   | WAF-4    | CARRIER            | 24HN8560              | 2      | 368        | 35        | 35       | 40,625  | 1 .         | 5.0   | 5.0   | R-410A      | 1           | 4046 | 0.25 | 800  | 60.0  | 95      | 15.3     | 12.5          | 34.2 | 50    | 1     | 208/240 | 1,2,3,4 |
| CU-S   | GRADE   | WAF-5    | AAON               | CFA-011-B-A-9-DC0EX   | 2      | 1078       | 46-3/4    | 94       | 57      | 2           | 7.5/5 | 7.5/5 | R-410A      | 2           | 4046 | 0,33 | 1075 | 133.4 | 95      | 13.9 EER | 27.8          | 64.0 | 90    | 1     | 208     | 1,2,3,4 |
| NOTES  | 1. UNIT SHALL                                       | BE COMPA | TIBLE WITH ASSOCIA | TED "DX" COOLING COIL |        | 3. PROVIDE | NEMA3R DI | SCONNECT | SWITCH  |             |       |       |             |             |      |      |      |       |         |          |               |      |       |       |         |         |
|  | 4 000150514   |          |                    |                       | ~ 4 ~  |            |           |          |         | IND CLUCK B |       |       |             |             |      |      |      |       |         |          |               |      |       |       |         |         |

| SPHINKL          | EK KOOW 119         | SIUR      | 4GE 33            | N/A            | N/A             | N.K.            | N.K.                      | N.K.  | υ    |
|------------------|---------------------|-----------|-------------------|----------------|-----------------|-----------------|---------------------------|-------|------|
| FITT             | VESS 120            | GY        | A 518             | N/A            | 0,8             | 155             | 194                       | N.R.  | 97   |
|                  | TOTAL               |           | 7286              | 55             |                 | 1674            | 1782                      | 806   | 1357 |
| paces unheat     | ed or maintained be | low 50°F  | re not covered by | these requirem | ents unless th  | ie occupancy is | continuous                |       |      |
|                  |                     |           |                   |                |                 |                 |                           |       |      |
| <del></del>      |                     |           |                   |                |                 |                 |                           |       | 3    |
|                  | <b>DIFFUSE</b>      | R, G      | RILLE, A          | ND REG         | SISTE           | R SCHI          | EDULE                     |       | 1    |
| EQUIPMENT<br>TAG | MANUFACTURER        | MODEL     | TY                | 'PE            | SERVICE<br>TYPE | MATERIAL        | MAXIMUM NOISE<br>CRITERIA | NOTES | ]    |
| SA               | TITUS               | OMNI      | 24"x24" SQUARE    | PLAQUE DIFFUSE | R SUPPLY        | STEEL           | 25                        | 1,2   | 1    |
| S8               | RUTTT               | 300FS     | DOUBLE DEFLE      | CTION REGISTER | SUPPLY          | ALUMINUM        | 25                        | 1,2   | 1    |
| RA               | TITUS               | 350ZRL    | O DEGREE LOU      | VERED GRILLE   | RETURN          | STEEL           | 25                        | 1,2   | 1    |
| RB               | TITUS               | 50F       | 24"x24" EGG       | CRATE GRILLE   | RETURN          | ALUMINUM        | 25                        | 2     | 1    |
| RC               | TITUS               | 350ZFL    | O DEGREE LOU      | IVERED GRILLE  | RETURN          | ALUMINUM        | 25                        | 1,2   | 1    |
| EA               | TITUS               | 350RL     | 35 DEGREE LO      | UVERED GRILLE  | EXHAUST         | STEEL           | 25                        | 1,2   | 1    |
| NOTES            | 1. COLOR TO BE SELE | CTED BY A | RCHITECT/OWNER    | -              |                 |                 |                           |       | 1    |

NOTES 1. COLOR TO BE SELECTED BY ARCHITECT/OWNER
2. CONTRACTOR SHALL DETERMINE BORDER TYPE

**HEATING COOLING LOADS** 

| IECC C403.2.1                         |        |
|---------------------------------------|--------|
| BUILDING HEATING LOAD (MBH)           | 255.01 |
| VENTILATION HEATING LOAD (MBH)        | 125.10 |
| TOTAL HEATING LOAD (MBH)              | 380.11 |
| HEATING SYSTEM OUTPUT CAPACITY (M8H)  | 419.60 |
| BUILDING COOLING LOAD (MBH)           | 174.86 |
| VENTILATION COOLING LOAD (MBH)        | 76.98  |
| . LIGHTING COOLING LOAD (MBH)         | 8.74   |
| OCCUPANTS COOLING LOAD (MBH)          | 33.00  |
| TOTAL COOLING LOAD (TONS)             | 24.47  |
| COOLING SYSTEM OUTBUT CAPACITY (TONS) | 27.00  |

## **HVAC SYMBOLS**

| 24x12 | Duct size free area (1st number is duct width on plan<br>view, 2hd number is duct depth in plan view.) |
|-------|--|
|       | ROUND FLEXIBLE DUCT  |
|       | SINGLE BLADE OR OPPOSED BLADE MANUAL VOLUME DAMPER.  |

- FULL SIZE GAS COCK,

PIPING SAME SIZE AS GAS DROP,

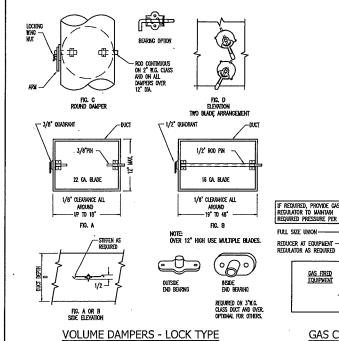
GAS CONNECTION DETAIL

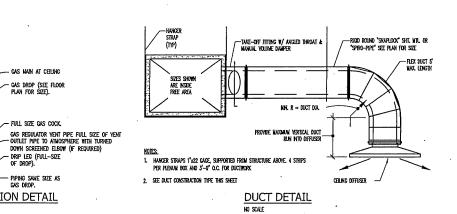
WALL OR DUCT MOURTED SUPPLY REGISTER OR GRILLE (TOP NO. = SIZE OF FACE OR NECK, BOTTOM NO. = AMOUNT OF AIR, LETTER INDICATES TYPE).

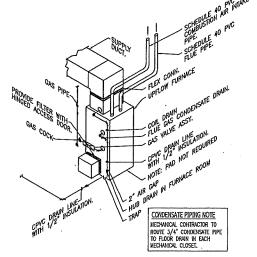
| <i></i>          | EXHÄUST FAN SCHEDULE                |                   |           |                           |                  |             |                |         |          |                  |                |          |           |           |      |            |        |          |         |   |                    |
|------------------|-------------------------------------|-------------------|-----------|---------------------------|------------------|-------------|----------------|---------|----------|------------------|----------------|----------|-----------|-----------|------|------------|--------|----------|---------|---|--------------------|
|                  |                                     |                   | GENERA    | L                         |                  |             |                |         |          |                  | FAN            |          |           |           |      | ELECTRICAL |        |          |         |   |                    |
| EQUIPMENT<br>TAG | LOCATION                            | MANUFACTURER      | MODEL     | FAN TYPE                  | WEIGHT<br>(LBS.) | -SONES      | DAMPER<br>SIZE | CFM     | DRIVE    | ESP.<br>(INCHES) | MAXIMUM<br>RPM | WATTS    | MO<br>BHP | TOR<br>HP | RPM  | MCA        | МОСР   | PHASE    | VOLTS   | CONTROLS  | NOTES              |
| EF-1             | CEILING                             | LOREN COOK        | GC-186    | FORWARD CURVED<br>CEILING | 23               | 5.5         | 8*0            | 225     | DIRECT   | 0.10             | 1100           | 90.9     | N/A       | N/A       | 1100 | 1.52       | 15     | 1        | 120     | INTERLOCK WITH THERMOSTAT                               | 1,2,3,4,6          |
| EF-2             | CEILING                             | LOREN COOK        | GC-186    | FORWARD CURVED<br>CEILING | 23               | 5.5         | 8*0            | 225     | DIRECT   | 0.10             | 1100           | 90.9     | N/A       | N/A       | 1100 | 1.52       | 15     | 1        | 120     | INTERLOCK WITH THERMOSTAT                               | 1,2,3,4,6          |
| EF-3             | CEILING                             | LORENCOOK         | 135CIC    | CENTRIFUGAL<br>INLINE     | 268              | 57 dBA      | 18″Ø           | 1088    | BELT     | 0.50             | 1150           | N/A      | 0.19      | 0.50      | 1725 | 6.22       | 15     | 1        | 120     | INTERLOCK WITH FURNACE                                  | 1,2,3,4,6,7,8,9,10 |
| EF-4             | CELING                              | LOREN COOK        | 1005QN-8  | CENTRIFUGAL<br>INLINE     | 80               | 9.5         | 12"x12"        | 700     | BELT     | 0.50             | 1660           | N/A      | 0.17      | 0.25      | 1725 | 3.11       | 15     | 1        | 120     | INTERLOCK WITH WALL SWITCH<br>OR PER OWNER'S PREFERENCE | 1,2,3,4,6,7,8,9,10 |
| TEF-1            | CELING                              | LOREN COOK        | GC-146    | FORWARD CURVED<br>CEILING | 12               | 1.4         | 4"0            | 75      | DIRECT   | 0.10             | 900            | 34.3     | N/A       | N/A       | 900  | 0.57       | 15     | 1        | 120     | INTERLOCK WITH LIGHTING                                 | 1,2,3,4,6          |
| TEF-2            | CELING                              | LOREN COOK        | 8-14/208  | CENTRIFUGAL<br>INLINE     | 80               | 9,4         | 12"x12"        | 480     | BELT     | 0.50             | 1679           | N/A      | 0.15      | 0.17      | 1725 | 2.07       | 15     | 1        | 120     | INTERLOCK WITH LIGHTING                                 | 1,2,3,4,6,7,8,9,10 |
| <u>NOTES</u>     | 1. SINGLE PO                        | INT WIRING CONNEC | TION      |                           |                  |             |                | S. PRO  | IDE UNIT | MOUNTED I        | IEMA 3R DISC   | ONNECT   |           |           |      | 8. PRC     | MDECC  | RROSIO   | RESISTA | INTCOATING  |                    |
|                  | 2. EXHAUST T                        | ERMINATION SHALL  | BEATLEAST | 2'-0" ABOVE OR 10'-0"     | FROM AN          | Y O.A.I. OF | ENING          | 6. PROV | IDE UNIT | MOUNTED I        | DISCONNECT     |          |           |           |      | 9. PRC     | MDEBE  | LT GUAR  | D       |   |                    |
|                  | 3. PROVIDEN                         | VIRE MESH SCREEN  |           |                           |                  |             |                | 7. PRO\ | IDE NEOF | RENEHANG         | ING ISOLATOR   | RS AND B | RACKET    | 5         |      | 10. PR     | OVIDEN | MOTOR CO | OVER    |   |                    |
|                  | 4. PROVIDE GRAVITY BACKDRAFT DAMPER |                   |           |                           |                  |             |                |         |          |                  |                |          |           |           |      |            |        |          |         |   |                    |

| GAS FIRED UNIT HEATER SCHEDULE  |                    |                   |       |      |        |            |                |        |          |          |             |       |        |         |       |       |     |      |       |      |         |
|---|--------------------|-------------------|-------|------|--------|------------|----------------|--------|----------|----------|-------------|-------|--------|---------|-------|-------|-----|------|-------|------|---------|
| courn   |                    |                   |       |      | WEIGHT |            | COMBUSTION     |        | HEATER   |          | FAN DATA    | 4     | D      | MENSION | IS    |       |     | мото | )R    |      |         |
| EQUIP.  | LOCATION           | MANUFACTURER      | MODEL | SIZE | (LBS.) | FLUE SIZE  | AIR SIZE       | INPUT  | OUTPUT   | TEMP     | TYPE        | CFM   | WIDTH  | HEGHT   | DEPTH | RPM   | НР  | FLA  | PHASE | VOLT | NOTES   |
| 17.0  |                    |                   |       |      | (0000) |            | Amorae         | (CFH)  | (MBH)    | RISE(*f) | 1174        | Crivi | (IN.)  | (IN.)   | (IN.) | RFIVE | nr  | 1    | PRAGE | VOL  |         |
| GUH-1   | MAINTENANCE 109    | REZNOR            | UDAS  | 60   | 68     | 4"Ø        | 4 <b>*</b> Ø   | 60     | 49.8     | 59,96    | CENTRIFUGAL | 769   | 26.625 | 15.125  | 27    | 1550  | 1/8 | 2.4  | 1     | 120  | 1,2,3,4 |
| GUH-2   | PUMP ROOM 114      | REZNOR            | UDAS  | 60   | . 68   | 4"0        | 4"0            | 60     | 49.8     | 59,96    | CENTRIFUGAL | 769   | 26.625 | 15.125  | 27    | 1550  | 1/8 | 2.4  | 1     | 120  | 1,2,3,4 |
| NOTES   | 1. PROVIDE UNIT MO | UNITED DISCONNECT |       |      |        | 3. PROVIDE | WALL/CEILING M | OUNTED | BRACKETS |          |             |       |        |         |       |       |     |      |       |      |         |
| 2. PROVIDE UNIT MOUNTED THERMOSTAT 4. BOTTOMOF UNIT MUST BE MOUNTED @ MAXIMUM OF B'-0" ABOVE FINISHED FLOOR |                    |                   |       |      |        |            |                |        |          |          |             |       |        |         |       |       |     |      |       |      |         |

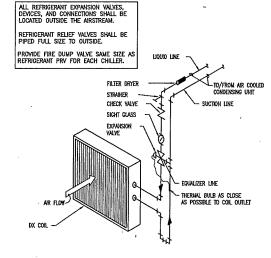
|   | ELECTRIC WALL HEATER SCHEDULE |              |            |        |                                |            |            |     |       |        |            |          |      |      |        |        |       |
|---|-------------------------------|--------------|------------|--------|--------------------------------|------------|------------|-----|-------|--------|------------|----------|------|------|--------|--------|-------|
|   | GENERA                        | lL.          |            |        | Ċ                              | ABINET     |            |     |       | HEATH  | <b>∤</b> G |          |      | FLEC | TRICAL |        |       |
| EQUIPMENT   | LOCATION                      | MANUFACTURER | MODEL      |        | DIME                           | AI) EMOIEN | 1.)        | CFM | INPUT | OUTPUT | EAT (DEG   | LAT (DEG |      | **** | PHASE  | 1/0176 | NOTES |
| TAG   | LOCATION                      | MANUFACIONES | MODEL      | LENGTH | HEIGHT                         | DEPTH      | PROJECTION | Crm | (KW)  | (MBH)  | F)         | F}       | MO   | MOLP | PRASE  | VOLIS  |       |
| EWH-1   | SPRINKLER ROOM 119            | BERKO        | CRA1512-T2 | 10.5   | 12.25                          | 4.5        | 0.75       | 50  | 1.5   | 5.1    | 55         | 149.8    | 16.9 | 20   | 1      | 120    | 1,2,3 |
| NOTES 1. COLOR AND FINISH TO BE SELECTED BY OWNER |                               |              |            |        | 3. PROVIDE INTEGRAL THERMOSTAT |            |            |     |       |        |            |          |      |      |        |        |       |
| 2. PROVIDEUNIT MOUNTED DISCONNECT                 |                               |              |            |        |                                |            |            |     |       |        |            |          |      |      |        |        |       |







|                |     | 1            |        |
|----------------|-----|--------------|--------|
| <b>FURNACE</b> | WAF | INSTALLATION | DETAIL |
| NO SCALE       |     |              |        |



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B. SUBMISSION OF BIO INDICATED THE SUBCONTINUTION'S ASSUMANCE OF COMPLETE MADESTRAGORS OF THE DESIGN INTENT AND THAT ALL NECESSAR COMPONENTS TOR A COMPLETE AND PULLY OPERATIONS STREAM, PREMER SECRETICALLY NOCACE ON THE PLANS OR MOT, ARE INCLUDED IN 187.

GAS PIPING NOTES

. Install a wanual saut off cock and dirt leg on each branch gas line connected to gas freed equipment. All yest lines from jeden gas regulator saul be grouped into a common header and run up their droft of a turned down leadow with calvanzed nesces screed over openias.

MECHANICAL CONTRACTOR TO FURNISH AND INSTALL ALL GAS REGULATORS ON THE LEAVING SIDE OF THE GAS METER. ALL GAS REGULATORS WILL HAVE A VENT PIPE RUNNING TO A COMMON YENT HEADER WHICH TERMINATES 18" ABOVE THE ROOF WITH A COOSENECK.

CAS PIPES MUST BE SLOPED AT 1/4 NICH IN EVERY 15 FEET. FUEL CAS PIPING CONTROLS MUST CONFORM TO THE IFCC, CHAPTER 4 (MTIH MODIFICATIONS AS NOTED IN CHAPTER 14). GAS PIPING MATERIALS MUST CONFORM TO THE CAS PIPING & TUBING MATERIAL MATRIX (IFCC 403 REQUIREMENTS). PIPING IN CONCEALED LOCATIONS

GAS PIPING CONNECTED TO APPLIANCES MUST BE COMMERCIAL GRADE, FLEXIBLE, YMYL COATED, QUICK DISCONNECT HOSING AND SHALL INCLIDE A RESTRAINING DEVICE.

6. CAS DISTRIBUTION PIPING SHALL BE REACK STEEL OR WROUGHT-BOW NOT LESS THAN SCHEDULE AD WITH CLASS . GAS DISTIBUTION PEPING STAFLE BE BLACK STEEL ON WROUGH-ROW NOT LESS THAN SCHEDULE 40 WITH CLESS THAN SCHEDULE 40 WITH CLESS THAN SCHEDULE 40 WITH CLESS THAN SCHEDULE AND WITH A 5 PSIG SHALL PLAYE STANDARD WELDED FITTINGS. PIPING SHALL COMPLY WITH AT LEAST ONE OF ASNE MUSE, 10, 10M; ASTIM A 53/A53W; ASTIM A 106. TUBBING SHALL COMPLY WITH AT LEAST ONE OF ASNE MUSE, 10, 10M; ASTIM A 53/A53W; ASTIM A 106. TUBBING SHALL COMPLY WITH AT LEAST ONE OF ASNE MUSE, 10, 10M; ASTIM D 15/A5TIM D 15/A5TI

5. A 25 LB AIR TEST MUST BE PERFORMED ON GAS PIPING AT TIME OF ROUGH INSPECTION.

MUST CONFORM TO THIS IFGC 404.3, [IFGC 404.3].

MECHANICAL NOTES FOR NEW WORK

DUCTWORK

- 1. ALL DUCTWORK SIZES SHOWN ON THE DRAWINGS ARE INSIDE DIMENSIONS. WHERE DUCT LINING IS CALLED FOR CONTRACTOR SHALL INCREASE THE SIZE OF THE DUCT TO MAINTAIN THE MINIMUM BISIDE DIMENSIONS CALLED FOR ON THE DRAWINGS.
- 2. ALL DUCTWORK CONNECTIONS TO AIR MOVING EQUIPMENT SHALL BE MADE WITH FLEXIBLE DUCT CONNECTIONS ON
- 3. INSTALL TURNING VANES IN ALL SQUARE DUCT ELBOWS. INSTALL MANUAL VOLLUME DAMPERS IN EACH BRANCH DUCT AT CONNECTION TO MAIN DUCT AND IN EACH DUCT. AFTER A BRANCH DUCT SPLIT.
- 4. THE LOCATIONS SHOWN FOR ALL DIFFUSERS, REGISTERS AND GRILLES, ETC. ARE DIAGRAMMATIC. EXACT LOCATION SHALL BE DETERMINED FROM THE REFLECTED CEILING PLANS AND/OR ON THE JOB SITE BY THE CONSTRUCTION MANAGER REPRESENTATIVES.
- 5. INSTALL A SHEET METAL SLEEVE AROUND ANY DUCTWORK WHICH GOES THROUGH WALL CONSTRUCTION, PACK FRERCIAS INSULATION AROUND SLEEVE AND DUCT AND CAULK WITH FIRE SEAL CALACING.
- Install a minaram 12\*x12" access door (inlet side) at each motorized damper, fire damper, soure damper, reline fan, intake and exhaust plenuns and an access door at air supply unit filter section.
- 7. INSTALL CODE APPROVED PUSIBLE LINK FIRE DAMPERS IN ALL DUCTS WHICH PASS THROUGH FAN ROOM WALL, BOALER ROOM WALL, MECHANICAL ROOM WALL, AND ALL FLOORS OR AS INDICATED ON DRAWNINGS. WHERE FIRE DAMPERS CANNOT BE CHECKED FROM A REGISTER OR GRILE, INSTALL AN ACCESS DOOR BY THE DUCT NEXT TO THE DAMPER AND ACCESS PARL IN ALL NEW ACCESSIBLE CEILINGS.
- ALL DUCTS JOINTS SEALED WITH DUCT WASTIC OR APPROVED TAPE
- DUCTWORK SHALL HAVE A MINIMUM INSULATION R-VALUE OF R-8 FOR OUTDOOR SPACES, R-6 FOR UNCONDITIONED SPACES, AND R-3.5 FOR CONDITIONED SPACES.

- All pping shall be suspended with cleys and/or trapeze pipe hangers. Prsulated piping shall rest on steel or wood pipe covering protection saddles or sheet metal insulation shields as called for in the SPECIFICATIONS AND/OR DETAILED ON THE DRAWINGS.
- 2. ALL PIPING PASSING THRU FLOOR CONSTRUCTION SHALL HAVE A SCHEDULE 40 STEEL PIPE SLEEVE INSTALLED AROUND PIPE ONLY. ALL PIPE PASSING THRU WALLS SHALL HAVE A GALVARIZED SHEET METAL OR SCHEDULE 40 STEEL PIPE SLEEVE INSTALLED AROUND THE PIPE AND PIPE INSULATION. SEE SLEEVE DETAILS THESE DRAWINGS.
- 3. SEE LARGE SCALE DRAWINGS (DETAILS) FOR ALL REQUIRED VALVES, FITTINGS, CAUGES, VEHTS, THERMOMETERS
  WHICH ARE COINECTED TO MECHANICAL EQUIPMENT. ALL WORK SHOWN ON DETAILS SHALL BE BY INSTALLING
- 4. MECHANICAL CONTRACTOR SHALL RUN INSULATED DRAIN PIPES FROM ALL HEATING/COOLING FAN COIL UNITS. SEE DRAINNES AND DETAILS FOR LOCATION OF TEXNEMATION OF DRAIN PIPES. ALL CONDENSATE DRAIN PIPES MUST BE PITCHED ANAY FROM THE DRAIN PAIN. ALL CONDENSATE DRAIN PIPES MALL BE ROULATED FROM USED.
- 5. MECHANICAL CONTRACTOR SHALL INSTALL PVC DRAIN PIPING FROM ALL BUILT-UP AIR SUPPLY UNITS. DRAIN PIPE WILL BE RUN FROM UNIT DRAIN PAN TO NEAREST FLOOR DRAIN. DRAINS WILL NOT BE INSULATED FROM BUILT-UP AIR SUPPLY UNITS.

### **HVAC ABBREVIATIONS**

|      | •                             |        |                        |
|------|-------------------------------|--------|------------------------|
| AFF  | ABOVE FINISHED FLOOR          | N/A    | NOT APPLICABLE         |
| BHP  | BRAKE HORSE POWER             | NC     | NEW CONNECTION         |
| BIV  | BRITISH THERWAL UNIT          | NK     | NECK                   |
| BTUH | BRITISH THERWAL UNIT PER HOUR | NTC.   | NOT IN CONTRACT        |
| CFH  | CUBIC FEET PER HOUR (GAS)     | A0     | OUTSIDE AIR            |
| CFM  | CUBIC FEET PER MINUTE         | O.A.L. | outside air intake     |
| DB   | DRY BULB                      | PD     | PRESSURE DROP          |
| DG   | DOOR GRILLE                   | PH     | PHASE                  |
| DN.  | DOWN                          | PSI    | POUNDS PER SQUARE INCH |
| EA   | exhaust air                   | R.A.   | return/relief air      |
| EAT  | ENTERING AIR TEMPERATURE      | RPM    | REVOLUTIONS PER MINUTE |
| ESP  | EXTERNAL STATIC PRESSURE      | S.A.   | SUPPLY AIR             |
| F    | FAHRENHEIT                    | SD     | SHOKE DAMPER           |
| FA   | FRESH AIR                     | SP     | STATIC PRESSURE        |
| FID  | FIRE DAMPER                   | TSP    | TOTAL STATIC PRESSURE  |
| FPF  | FINS PER FOOT                 | U.C.   | UNDERCUT DOOR          |
| FPM  | FEET PER MINUTE               | WB     | WET BULB               |
| HP   | HORSEPOWER                    | WC     | WATER COLUMN           |
| LAT  | LEAVING AIR TEMPERATURE       | WG     | WATER CAUGE            |

CONDENSATE NOTES

l condensate piping shall have a minimum slope of not less than 1/8° per

CONDENSATE PPING SHALL BE CORROSION RESISTANT. ACCEPTABLE MATERIALS INCLINE CAST RON, GALVANIZED STEEL, COPPER, POLYETHYLENE, POLYBUTYLENE, ABS, PROVIDE CELING RODATION DAMPERS AT ANY CELING ARI INLET/CUTLET OPENING PROVIDE CAST RON, GALVANIZED STEEL, COPPER, POLYETHYLENE, POLYBUTYLENE, ABS, PROVIDE CELING RODATION DAMPERS AT ANY CELING ARI INLET/CUTLET OPENING PROVIDE CAST ROSA RESISTANCE.

PROVIDE CONDENSATE DRAIN SYSTEM FOR ALL EVAPORATORS AND COOLING COILS.

'-0" Horizontal and shall be collected and discharged to an approved Lumbing fixture or disposal area per Manufacturer's instructions.

AUXILIARY DRAIN PAN IS REQUIRED FOR ALL EVAPORATORS AND COOLING COILS WHERE ANY DAMAGE TO BUILDING COMPONENTS WOULD OCCUR DUE TO OVERFLOW FROM THE

RIMARY DRAIN PAN OR CLOGGING OF THE CONDENSATE PIPING

### MECHANICAL NOTES FOR GENERAL WORK

- DRAWNOS ARE GENERALLY DAGRAMMATIC. ROUTING OF PIPING AND DUCTHORK AS SHOWN DOES NOT INTEND TO SHOW KPERY RISE, ROPO, OFFSET, FITTING NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING HE RISELLAND OF THIS WORK. EACH CONTRACTER SHALL MAKE ANY REDURED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWNING, SUCH AS OFFSETS, BOTING OR CHANGES IN ELEMATION DUE TO CORPONATION WITH THE WORK OF OTHER TRAVES AND BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR SHALL BY COMPLETON THE OF THE PROJECT.
- IT IS DITENDED THAT-EQUIPMENT SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS OF THE BULDING, NOTMITISTATIONIC THE FACT THAT LOCATIONS BROXCATED BY THESE DRAWINGS MAY BE DISTORT FOR CLEARLESS OF PRESENTATION
- . CONTRACTOR SHALL CHECK DRAWINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THEIR WORK WILL BE INSTALLED ARE CLEAR OF OBSTRUCTIONS. WORK SHALL BE INSTALLED TO WANTAM WAXMUM HEADROOM AND SPACE COMMON AT ALL PORTIES IN THE BURDONG. WHIER HEADROOM OR SPACE CONDITIONS APPEAR BADEQUATE, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION OF THEIR WORK.
- CONTRACTOR SHALL FURNISH OTHER TRADES ADVANCE INFORMATION AND/OR SHOP DRAMMIGS ON LOCATIONS AND SIZES OF PIPNIG, DUCTHORK, CONDUIT, RECEWAYS, EQUIPMENT, FRAMES, BOXES, SIZENES AND OPENINGS, IC. NEEDED FOR THEIR WOOK FOR WITHOUT DELAY.
- MINIOUS LEGAL.

  WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL WEET ON JOB SITE TO WORK OUT SPACE CONDITIONS AND WAVE SANTSACTIONY ADJISTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTORS SHALL LEGIFY FROM THE PROPERTY OF THE PROPERTY AND FORWARD WITH FELD CONDITIONS, SHOP PRAYMICS, AND WORK OF OTHER TRADES PRIOR TO ROUGH—M. CONTRACTOR SHALL BE ESPONSIBLE, AT THEIR OWN EXPESSE FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK IF SAME MAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE JUSTALLATION OF ANY PART OF THEIR WORK IF
- CONTRACTOR SHALL PROVIDE SLEEVES IN BEAVS, FLOORS, COLUMNS AND WALLS AS SHOWN ON THE Conting the speak proving secrets at bodds, floors, colours and melas as shown on the Dankings, are decoursed by Job Stie Conditions, analyge as specified, which installing their mork. All beaks and columns higher are required to be sleeped shall be cuit and reinforced as required by field conditions and locations and sizes shall be checked and approved by architect before contractor cuits any structural boulding bediege.
- THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTIORS ON THE PROJECT AND IN STRICT ACCORDINGE WITH CONSTRUCTION MANAGER AND OWNERS STIPULATION AS CALLED FOR IN THE SPECIFICATION MOD/OR AS ORICITIED.
- CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWINGS (BEFORE SUBMITTING THER BIDS) TO FAMILHADE THEMSELYES WITH THE EXTENT OF THE OTHER TRADES CONTRACTORS WORK, CEILING HEIGHTS AND CLEARANCE FOR INSTALLING THEIR WORK.
- CONTRACTOR SHULL BE RESPONSIBLE FOR THEIR OWN CLEAH-UP DURING CONSTRUCTION. IF CONTRACTOR FALS TO PROVIDE SUCH CLEAH-UP. THE ARCHITECT/ENGREEM WILL DIRECT ANOTHER CONTRACTOR TO PERFORM THE CLEAH-UP AND THE NEGLECHT CONTRACTOR SHULL PAY THE ASSOCIATED BACK-CHARGES AS DEEMED APPROPRIATE BY THE CONSTRUCTION MANAGER.
- COMTRACTOR SHALL INSTALL ALL AUXILIARY SUPPORTING STEEL AS REQUIRED FOR THE SUPPORTING OF THEIR PIPAN, DUCTHORK, COMOUNT, EQUIPACHT, ETC. ALL SUPPORTING STEEL FOR ITEMS ABOVE A SUSPENDED CEILING SHALL BE FROM BUILDION STRUCTURAL MEMBERS ONLY.
- SPACE OF ROW BOLLOWS STRUCTURE RESERVES OWN.1

  I. CONTRACTOR SHALL STORE ALL WATERMAS AND EQUIPMENT SHIPPED TO THE STIE IN A PROTECTED AREA. IF MATERIAL IS STORED DUTSIDE OF THE BUILDING, IT MUST BE STORED DIF THE GROUND A MISMUM OF SIX NOHES (6") SET ON 8 x 8 PLANKS AND/OR WOOD PALETS. ALL MATERIAL MADE FOUNDED WITH WATERPROOF TARPS OR VISCOUN. ALL PIPPED AND DUCTHORN WILL HAVE THE BUDS CLOSED TO KEEP OUT DIRT MIN OTHER DEBRES. NO EQUIPMENT WILL BE ALLOWED TO BE STORED ON THE SITE URLESS IT IS SITTING ON WOOD PLANKS AND COMPLETELY PROTECTED WITH WEATHERPROOF COVERS.
- 12. THE DRAWNICS, SCHEDULES, AND SPECIFICATIONS HAVE BEEN PREPARED USING ONE MANAFACTURER FOR EACH PIECE OF EQUIPMENT AS THE BASIS FOR DIMENSIONAL DESIGN. IF THE CONTRACTOR PURCHASES EQUIPMENT LISTED AS A SPECIATED ACCEPTABLE MANAFACTURER BUT IS NOT THE SCHEDULE MANAFACTURER BUT IS NOT THE SCHEDULE MANAFACTURER BUT IS NOT THE SCHEDULE MANAFACTURER USED FOR THE BASE DESIGN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL THE SCHEDULE THE EQUIPMENT OF VEREY THAT IT WILL FIT IN THE SPACE SHOWN ON THE DRAWNINGS. MINOR DEVARIOUS IN DURISIONS WILL BE PERMITTED, PROVIDED THE FAILINGS HERE THOSE SHOWN ON THE DRAWNINGS AND EQUIPMENT WILL PRISTULALLY FIT RIOT THE SPACE ALLOCATED WITH SUITABLE ACCESS AROUND EQUIPMENT FOR OPERATION AND MAINTENANCE ON THE EQUIPMENT.
- 13. CONTRACTOR AND/OR MANUFACTURER SHALL VEREY THAT THE CHARACTERISTICS OF THE EQUIPMENT THEY SUBMIT FOR REVIEW MEETS THE CAPACITY AND DUTY SPECIFIED. WHEN EQUIPMENT IS SUBMITTED FOR REVIEW AND DOES NOT WEST THE PHYSICAL SIZE OR ARRANGEMENT OF THAT SCHEDULED AND SPECIFIED, CONTRACTOR SHALL PAY FOR ALL AUSTRAINIONS REQUIRED TO ACCOUNTANCED SHALL PAY CONTRACTOR WILL ALSO PAY ALL COSTS FOR ADDITIONAL MORK REQUIRED BY OTHER CONTRACTORS, OWNER, ARCHITECT OR ENGINEER TO MAKE CHANGES WHICH WOULD ALLOW THE EQUIPMENT TO FIT IN THE SPACE AND FUNCTION AS INTENDED.
- 14. Betare starting any system installing contractor shall contact equiphent manufacturer to verey that fach pece of equiphent system has been checked for proper lubrication, drive rotation, belt tribidian, control sequence or other confiding high lay cusped was the tribidiance of the equiphent.
- 15. CONTRACTOR AND/OR MANUFACTURER SHALL YERFY THAT THE CHARACTERISTICS OF THE EQUIPMENT THEY SUBMIT FOR REVIEW MEETS THE CAPACTTY AND DUTY SPECIFIED,

MECHANICAL CODE NOTES

HVAC TEST AND BALANCE REPORT MUST BE SUBMITTED TO BUILDING DEPARTMENT

AIR HANDLING SYSTEMS WITH A CAPACITY GREATER THAN 2000 CFM MUST BE PROVIDED WITH CODE—COMPLIANT SMOKE DETECTORS AND CONNECTED TO AUTOMATIC FIRE ALARM SYSTEM. (IMC 606.2.1)

SLOPE OUTSIDE AIR INTAKE DUCTS UPWARD (SO THAT ANY WATER DRAWS OUT THE LOUVER) A MINIMUM OF 1" PER 7"-0" OF RUN AND SOLDER ALL SEAMS FOR THE FIRST 6"-0" OF DUCT.

HAAC CONTRACTOR SHALL PROVIDE BLOWER DOOR TEST 0 MINMUM 0.2" MG (ECC 402.4.1.2) & DUCT LEAVAGE TEST 0 MINMUM 0.1" MG (ECC 403.2.2) RESULTS (SIGNED BY 3RD PARTY) TO CODE OFFICIAL PRIOR TO FINAL INSPECTION

PROVIDE CORRIDOR DAMPERS (FIRE AND SMOKE) AT ANY AIR INLET/OUTLET OPENING IN RICE BATED PARTITIONS ABOVE CORRIDOR CELLINGS. COORDINATE LOCATIONS WITH ARCHITECT IN FIELD.

PROVIDE SMOKE DAMPERS AT ANY AIR INLET/OUTLET OPENING IN SMOKE PARTITIONS. COORDINATE LOCATIONS WITH ARCHITECT IN FIELD.

16. THE MECHANICAL CONTRACTOR TO PROVIDE 1/4 INCH SCALE PIPING AND DUCYNORK DRAWNICS FOR COORDINATION WITH OTHER TRADES. DRAWDIGS TO INDICATE DIMENSIONS AND ELEVATIONS OF ALL PIPING AND DUCTWORK. DRAWNISS TO A ASS INCLUSE ALL MALI/LACOR/PROFO PEPIENS.

### CONTRACTOR NOTES

drawings are designed for diagranimatic and informational purposes only and DRAWINGS ARE DESIGNED FOR PAGRAMANIC AND INFORMATIONAL PURPOSES ONLY AND ARE WITHOUT WARRENTY. USE OF THESE DOCUMENTS IS AT THE OWNER'S SOLE WAS AND WITHOUT LIABILITY TO BEHAVIOR HAVE. BY USING THESE DOCUMENTS, THE OWNER SHALL INDEADED AND HOT HAVE FROM AND AGAINST CLAMS, DAWAGES, LOSSES AND EXPENSES, INCLUDING BUT NOT LIMITED TO ATTORNEY'S FEES, AREISNG OUT OF THE USE OF THESE DRAWINGS, SPECIFICATIONS, ELECTRONIC DATA OR OTHER HISTOCHEST OF SERVICE. THE CONSTITUTION THAN MUST CORROLNED DRAWINGS WITH EUSTING CONDITIONS PROCEEDING. THE DESIGN THAN OF ANY DISCREPANCES OR COMPLICITS PROOF FOR TO PROCEEDING. THE DESIGN THAN OF ANY INSCREPANCES OR COMPLICITS PROOF FOR TO PROCEEDING. THE DESIGN TEAM OF ANY INSCREPANCES OR COMPLICITS PROOF TO PROCEEDING. THE DESIGN THAN OF A THRIP PRATY FOR THEIR USE AND ASSUME NO RESPONSIBILITY FOR ANY DRAWINGS PRINTED OUTSIDE OF THEIR SUPPRISSION.

MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ALL MECHANICAL APPLIANCES OR EQUIPMENT SHALL BE AVAILABLE TO BUILDING DEPARTMENT INSPECTIORS AT THE TIMES OF INSPECTIONS, LISTING AND LABELING SHALL ALSO BE AVAILABLE.

CONTRACTOR RESPONSIBLE FOR COORDINATION OF ALL AIR DEVICE FRAMES WITH

Appliances, mechanical equipment, etc. Serving different areas (or tenant spaces) shall be permanently waked in an approved mainer that unrouely identifies the appliance and the area/tenant space it serves.

PRIOR TO INSTALLATION OF ALL COUPMENT, DUCTWORK, DIFFUSERS, PIPING, INSULATION, SUPPORTS, ETC. CONTRACTOR TO COORDINATE WITH ALL TRADES CONTRACTOR REQUIRED TO PROVIDE ALL REQUIRED OFFSETS AND EQUIPMENT RELOCATION DUE TO FIELD CONTRACTS.

ARCHITECTURAL CELLING THE REQUIREMENTS AND PROVIDE COMPARIBLE FRAMES AS REQUIRED. CONTRACTOR RESPONSIBLE FOR QUANTITIES, SIZES, TYPES, AND LOCATIONS OF ALL AIR DEVICES.

MECHANICAL CONTRACTOR SHALL PROVIDE ALL CONTROL COMPONENTS, MIRING, IMPERIOCKS, ELECTRICAL POWER AND ALL OTHER DEVICES REQUIRED TO MAKE ALL HAVE EQUIPMENT INSTALLED INDER THIS PROJECT COMPILET AND FULLY OPERATIC PER THE SEQUENCE OF OPERATION AND AS REQUIRED FOR SAFE AND ACCURATE

CONTRACTOR SHALL NOT INTERRUPT ANY DEVICES OR SYSTEMS OUTSIDE AREA OF SCOPE WITHOUT THE EXPRESS CONSENT OF THE OWNER.

Scale AS NOTED own RJB 1902

BICKOM Mechanical-Electr DETAILS MEC!

REVISIONS BY

9/30/19 RB

NEW COMMUNITY CENTER & LAUNDRY DARLINGTON COURT APARTMENTS DARLINGTON LANE CRYSTAL LAKE, ILLINOIS 60014

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 $\mathcal{O}$ ESI Road 60051

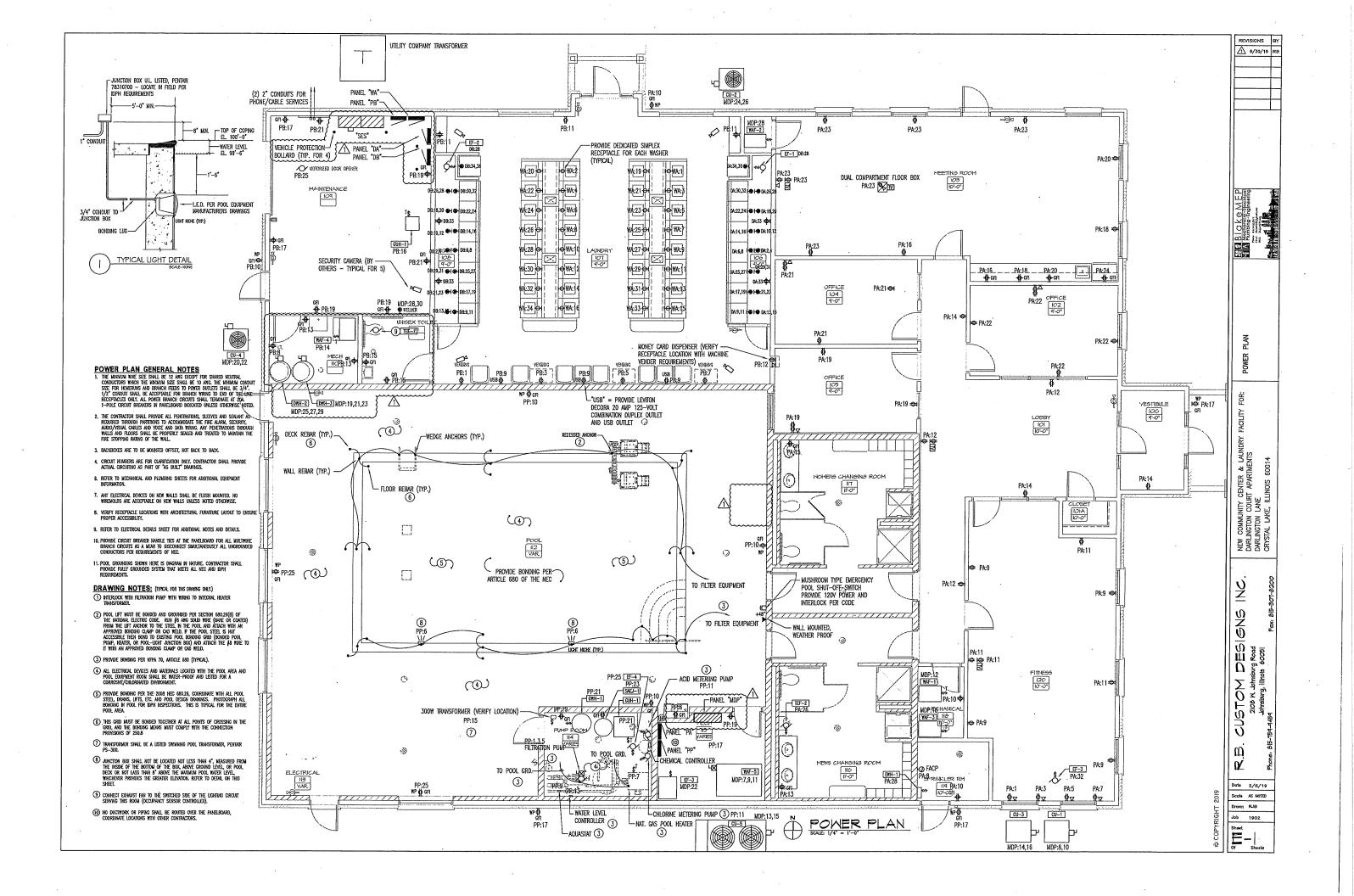
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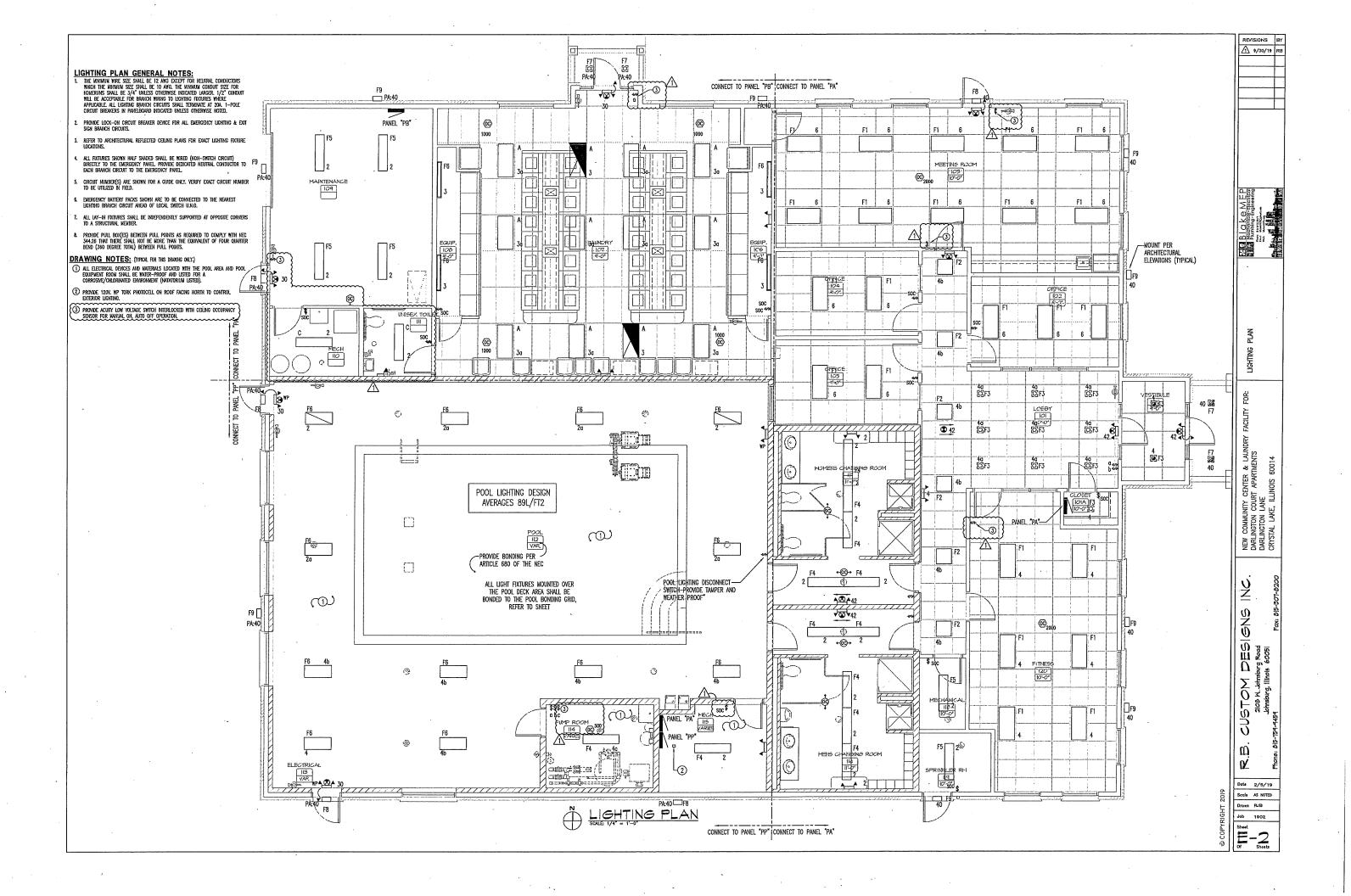
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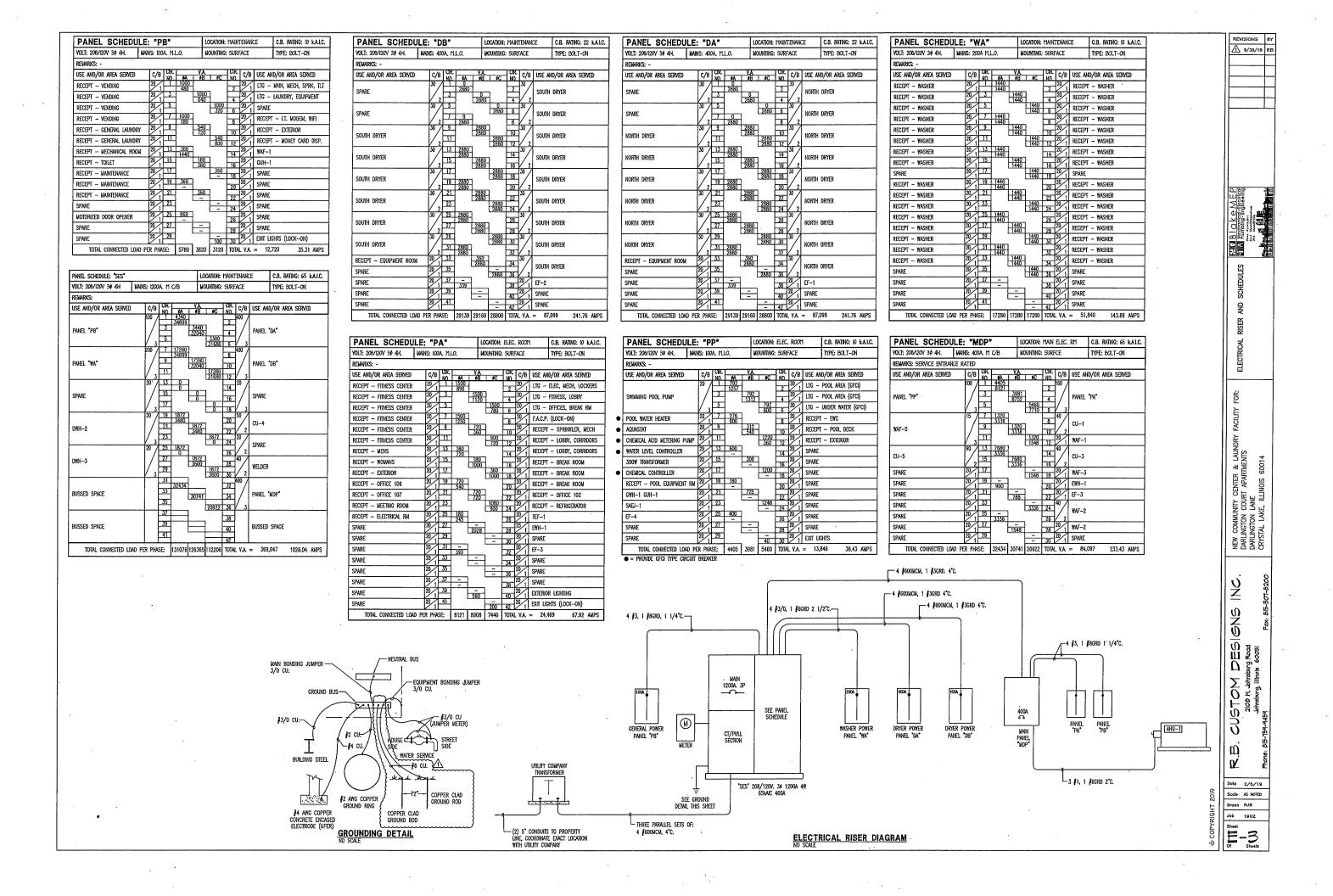
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Date 2/5/19

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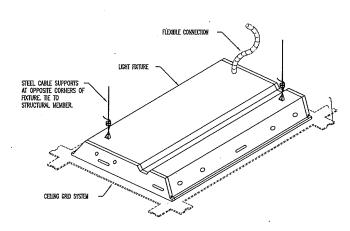






| BREAKER/FUSE | MIN. WIRE SIZE | BRÉAKER/FUSE | MIN. WIRE SIZE | BREAKER/FUSE | MIN. WIRE SIZE |
|--------------|----------------|--------------|----------------|--------------|----------------|
| 15           | <b>#</b> 12    | 80           | ł2             | 300          | 350 kcmli      |
| 20           | <b>#</b> 12    | 90           | į3             | 350          | 500 kcmil      |
| 25           | <b>₽</b> 10    | 100          | <b>#</b> 2     | 400          | - 600 kcmil    |
| 30           | , <b>#</b> 10  | 110          | <b>₽</b> 1     | 450          | (2) 250 kcmil  |
| 35           | <b>#</b> 8     | 125          | 1/0            | 500          | (2) 250 kcmil  |
| 40           | Æ              | 150          | 1/0            | 600          | (2) 350 kcmil  |
| 45           | . #8           | 175          | 2/0            | 700          | (2) 400 kcmil  |
| 50           | #8             | 200          | 3/0            | 800          | (2) 600 kcmll  |
| 60           | #4             | 225          | 4/0            | 1200         | (3) 600 kcmil  |
| 70           | <b>#</b> 4     | 250          | 250 kcmil .    | 1600         | (4) 600 kcmil  |

THIS CONTRACTOR SHALL SIZE ALL CONDUCTORS SO THAT NO RUN EXCEEDS 2% VOLTAGE DROP FOR



LIGHT FIXTURE SUPPORT DETAIL

| LIGHTING FIXTURE SCHEDULE |  |          |               |               |   |                                 |  |  |  |  |  |
|---------------------------|--|----------|---------------|---------------|---|---------------------------------|--|--|--|--|--|
| TYPE                      | DESCRIPTION  | мочнтінс | LAMPS         | VOLTAGE       | MANUFACTURER &<br>CATALOG MUMBER                              | APPROVED EQUAL<br>HANUFACTURERS |  |  |  |  |  |
| FI                        | 2x4 LED TROFFER  | RECESSED | J8W<br>LED    | 12 <b>0</b> Y | LITHONIA<br>2BLT4 48L ADP EZ1 LP835                           | ARCHITECT APPROVED<br>EQUAL     |  |  |  |  |  |
| F2.                       | 2x2 LED TROFFER  | RECESSED | 26.3W<br>LED  | 120Y          | LITHONIA<br>2BLTZ 33L ADP EZ1 LP835                           | ARCHITECT APPROVED<br>EQUAL     |  |  |  |  |  |
| F3                        | 6° LED DOWNLIGHT   | RECESSED | 20.5¥<br>LED  | 120 <b>Y</b>  | LITHONIA<br>LDH6 35/15 LOGAR LSS MYOLT EZ10                   | ARCHITECT APPROVED<br>EQUAL     |  |  |  |  |  |
| F4                        | 4' LED STRIP LIGHT, WET LABEL, ROWS AS IN PLAN   | SURFACE  | 49\<br>LED    | 120¥          | KENALL<br>MLHA12GMS-4/48-MW-45L35K-CP-1<br>-1-120             | ARCHITECT APPROVED<br>EQUAL     |  |  |  |  |  |
| F5                        | 4' LED STRIP LIGHT   | SURFACE  | 27.5¥<br>LED  | 120V          | LITHONIA<br>CLX L48 4000LM SEF WDL<br>MYOLT GZ10 35K 80CRI WH | ARCHITECT APPROVED<br>EQUAL     |  |  |  |  |  |
| F6                        | 36" UPLIGHT, CLEAR ACRYLIC LENS, NATATORIUM LISTED, WITH EXTRA SS SAFETY CABLE, 18460 LUMENS | PENDANT  | 209.5\<br>LED | 120V          | WINONA LIGHTING<br>WLAWC804 WL 36LONG<br>AL1A4 30K AVOLT      | ARCHITECT APPROVED<br>EQUAL     |  |  |  |  |  |
| F7                        | 6" LED DOWNLIGHT, WET LABEL, EXERGENCY BACK UP   | RECESSED | 23.2\\<br>LED | 120Y          | GOTHAM<br>EYO 35/20 GAR MYND LSS MYOLT EZ1<br>EL              | ARCHITECT APPROVED<br>EQUAL     |  |  |  |  |  |
| F8                        | LED WALL PACK, FULL CUT OFF EMERGENCY OPTION   | SURFACE  | 25\<br>LED    | 120V          | LITHONIA<br>WST LED P2 30K YF MYOLT DDBTXD<br>E7WH            | - Architect approved<br>Equal   |  |  |  |  |  |
| F9                        | LED WALL PACK, FULL CUT OFF  | SURFACE  | 25W<br>LED    | 120V          | LITHONIA<br>WST LED P2 30K VF MYOLT DOUTKD                    | ARCHITECT APPROVED EQUAL        |  |  |  |  |  |

|                 | EXIT SIGN & EMERGENCY LIGHTING SCHEDULE   |                 |                  |                |                                 |  |  |  |  |  |  |
|-----------------|---|-----------------|------------------|----------------|---------------------------------|--|--|--|--|--|--|
| SYMBOL.         | DESCRIPTION   | MOUNTING        | LAMPS            | VOLTAGE        | MANUFACTURE &<br>CATALOG NUMBER |  |  |  |  |  |  |
| 484             | EXERGENCY LICHT/EXIT SIGN COMBO,<br>HOUISING WITH WHITE FINISH AND RED LETTERS, NICKEL<br>CADMIUM FIELD KNOCKOUT ARROWS AS REQUIRED.    | BACK            | LONG<br>Life Led | 1207.          | lithonia<br>Lhqui eni series    |  |  |  |  |  |  |
| ⊗ <sub>µb</sub> | EMERGENCY EXIT SIGN WEATHER PROOF, SWIGLE<br>FACE, NATATORIUM LISTED  | BACK            | LONG<br>UFE LED  | 12 <b>0</b> V. | Kenall<br>Metou el series       |  |  |  |  |  |  |
| 4_4             | DUAL HEAD EMERCENCY LIGHTING UNIT WITH WHITE<br>CONTEMPORARY POLYCARBONATE ENCLOSURE, WALL MOUNTED                                      | SURFACE<br>WALL | LED              | 120V.          | Lithonia<br>Eljult series       |  |  |  |  |  |  |
| 4₩₽^            | DUAL HEAD EMERGENCY LIGHTING UNIT WITH WHITE<br>CONTEMPORARY POLYCARBONATE ENCLOSURE, WALL MOUNTED,<br>WEATHER PROOF, NATATORIUM LISTED | SURFACE         | 140              | 120Y.          | KENALL<br>Vetel, el, series     |  |  |  |  |  |  |

| OCCUPANCY SENSORS |   |           |  |                  |                               |                                |  |  |  |
|-------------------|---|-----------|--|------------------|-------------------------------|--------------------------------|--|--|--|
| SYMBOL            | DESCRIPTION   | COVERAGE  | AREAS OF USE   | MOUNTING         | MANUFACTURER                  | SENSOR CATALOG<br>NUMBER       | CONTROL UNIT (POWER<br>SUPPLY) CATALOG<br>NUMBER |  |  |
| <b>\$</b> 500     | RECESSED WALL MOUNTED, DUAL TECHNOLOGY,<br>SINGLE CIRCUIT   | 400 SQFT  | SMALL OFFICES,<br>STORAGE CLOSETS,<br>ETC.                             | RECESSED<br>WALL | acuity brands<br>sensorswitch | AWSX POT XX COLOR BY ARCHITECT | INTEGRAL TO SENSOR                               |  |  |
| @ <sub>500</sub>  | CEILING MOUNTED WHERE THERE ARE RECESSED LIGHT FIXTURES, DUAL TECHNOLOGY, WITH AUXILIARY CONTACTS | 500 SQFT  | OFFICES, CONFERENCE<br>ROOMS, CLASSROOMS,<br>CAFETERIAS, LIBRARY, ETC. | CEILING          | ACUITY BRANDS<br>SENSORSWITCH | ∳CM POT 9 R                    | SINGLE CIRCUIT #PP20<br>TWO CIRCUIT #PP20 + SP20 |  |  |
| @ <sub>1000</sub> | CEILING MOUNTED WHERE THERE ARE RECESSED LIGHT FIXTURES, DUAL TECHNOLOGY, WITH AUXILIARY CONTACTS | 1000 SQFT | OPEN OFFICES,<br>CLASSROOMS, CAFETERIAS,<br>LIBRARY, ETC.              | CEILING          | acuity brands<br>sensorswitch | ¶CM PDT 10 R                   | SINGLE CIRCUIT (PP20<br>TWO CIRCUIT (PP20 + SP20 |  |  |
| €2000             | CEILING MOUNTED WHERE THERE ARE RECESSED LIGHT FIXTURES, DUAL TECHNOLOGY, WITH AUXILIARY CONTACTS | 2000 SQFT | OPEN OFFICES,<br>CLASSROOMS, CAFETERIAS,<br>LIBRARY, ETC.              | CEILING          | ACUITY BRANDS<br>SENSORSWITCH | <b>∮</b> CM PDT 10 R           | SINGLE CIRCUIT (PP20<br>TWO CIRCUIT (PP20 + SP20 |  |  |
| +⊗+               | CEILING MOUNTED, ULTRASONIC, WITH AUXILIARY CONTACTS  | 500 SQFT  | GANG TOLET ROOMS   | CEITING          | ACUITY BRANDS<br>SENSORSWITCH | #WY PDT 16 R+ WY BR            | SINGLE CIRCUIT (PP20<br>TWO CIRCUIT (PP20 + SP20 |  |  |

OCCUPANCY SENSOR ESPERAL NOTES:

1. SEISOR PLACEMENT ON PLANS IS APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR ENGAGING A MANUFACTURERS REP TO PRODUCE A MOTION SENSOR LAYOUT THAT IS COMPLANT WITH THE CONTRAINS ENERGY CODE.

2. CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY & TIME DELAY SETTINGS (FOR NON-AMPTIME PRODUCTS) RECOMMENDED PLACEMENT, AND FIELD VERFICATION OF CIRCUITS WITH IN RESPECT TO POWER PLACEMENT.

3. OCCUPANCY SENSORS SHALL HAVE AUDILIARY CONTRACTS FOR USE BY BUILDING AUTOMATION SISTEM (BAS) CONTRACTOR.

4. UPON THE COMPLETION OF CONSTRUCTION THIS CONTRACTOR SHALL RETURN TO THE BUILDING TO VERFY THAT ALL OCCUPANCY SENSORS ARE FUNCTIONING TO THE OWNERS SATISFACTION AND MAKE APPROPRIATE ADJUSTMENTS AS NEEDED. RELOCATE SENSORS OR ADJUST SENSORS AND POWER PROVISED BY OWNER.

5. THIS CONTRACTOR SHALL PROVIDE SUBJECTED SENSORS OR ADJUST SENSORS AND POWER PACKS FOR THE ENGHEERS APPROVAL PRIOR TO PURCHASING THE UNITS.

6. WITH THE COCUPANCY SENSOR SHALL PROVIDE A LIGHTING PLAN CLARATY MAKED BY MANUFACTURER SHOWING PROPER PRODUCT, CHOICH, ORDERITATION AND COVERAGE OF EACH SENSOR.

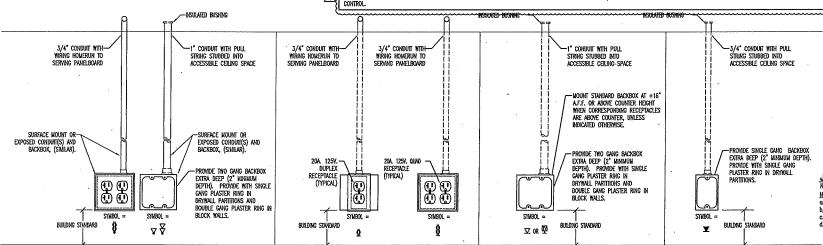
7. MOUNT CONTROL UNITS (POWER PACKS) WITHOUT SUBJECT SENSOR AND POWER PACKS FOR THE ENGINEERS AND CONTROL UNITS SHALL BE ROUTED WITHIN LOCKOUT AND BOXES.

8. CONTROL WIRRING BEHWEEN SENSORS AND CONTROLS UNITS SHALL BE CAUSE II, 18.24 AMB, STRANDED UP. CLASSIFIED, ALL QUARDLE WARDERS, CAUBLES, EXPRISED AS AND LIGHTMES SHALL BE MANUFAL ORDER. SHAPPORE SENSORS, SENSORS FOR THE COLUMN FOR FORCE PACKED TO A MINISTED, CONTROL WITH SHALL BE ROUTED WITHIN CONDITION AND BOXES.

9. THE COMPARITOR SHALL BOOK SENSOR SHAPPORE PACKED FOR THE AUDITOR SHAPPORE PACKED. AND LIGHTMES SHALL BE MANUFAL ORDER SHAPPORE PACKED. AND LIGHTMES SHALL BE ROUTED WITHIN CONDITION AND BOXES.

9. THE COMPARITOR SHALL LOCK SHAPPORE PACKED TO A MINISTED CONTROL WITH SHAPPORE PACKED. TO A MINISTED CONTROL WITH SHAPPORE PACKED TO A MINISTED CONTROL WITH SHAPPORE PACKED. AND LIGHTMES SHALL BE WARRED AND LIGHTMES SHALL BE MANUFALL ON, AUTO OFF. WHERE CELLING MOUNTED,

10. OCCUPANCY SEISORS AND LIGHTING SHALL BE MANUAL ON, AUTO OFF. WHERE CELLING MOUNTED, USE ACUITY LOW VOLTAGE SMITCHES INTERLOCKED WITH CELLING OCCUPANCY SEISORS FOR THS CONTROL.



## ELECTRICAL SYMBOL LIST

2' X 4' FLUORESCENT LUMENARE, RECESSED OR SURFACE MOUNTED PER LUMENARE SCHEDULE.

4' FLUORESCENT STRP LUVINARE, PER LUVINARE SCHEDULE. WALL MOUNTED INCANDESCENT OR HID LUMBHARE PER LUMBHARE SCHEDNIE.

PLUORESCENT OR HID LUMINAIRE, RECESSED OR SURFACE MOUNTED PER

HALF SHADING DENOTES UNSWITCHED LUMBAARE. (HIGHTUCHT)

EMERGENCY EXIT SIGN, SURFACE CEILING MOUATIED, SINCLE OR DOUBLE FACE, WITH OR WITHOUT DIRECTIONAL ARROWS PER EXIT SIGN SCHEDULE.

EMERGENCY EXIT SIGN, SURFACE WALL MOUNTED, SINGLE OR DOUBLE FACE, WITH OR WITHOUT DIRECTIONAL ARROWS PER EXIT SIGN SCHEDULE.

SELF-CONTAINED EMERCENCY LICHTING FIXTURE, WITH BATTERY BACK-UP AND SOLID STATE CHARGER PER LICHTING FIXTURE SCHEDULE

SINGLE POLE 20 AMP 120/277 VOLT TOCCLE SWITCH INSTALLED  $48^{\circ}$  A.F.F.

SINGLE POLE 20 AMP 120/277 VOLT TOGGLE SWITCH WITH PLLOT LIGHT INSTALLED 48" A.F.F.

MANUAL MOTOR STARTER, THERMAL OVERLOAD TOGGLE SWITCH,

HOH-FUSED SAFETY DISCONNECT SWITCH, AMPERE RATING AND NUMBER OF Ф

4E) FUSED DISCONNECT SMITCH, AMPERE RATING AND NUMBER OF POLES AS NOTED.

YOICE JACK.

SURFACE MOUNTED EXPOSED CONDUIT.

FURNITURE FEED POKE-THRU DEVICE.

MULTI-SERVICE POKE-THRU DEVICE.

DENOTES ELECTRICAL DEVICE MOUNTED ON SURFACE RACEWAY.

RECEPTACLE/LOW VOLIAGE OUTLET (OR DEVICE SHOWN) MOUNTED ON DMIDED SURFACE

SPECIAL PURPOSE RECEPTACLE, PROVIDE NEWA CONFIGURATION PER EQUIPMENT REQUIREMENTS

20 AMP 2P; 3 WIRE, GROUNDING TYPE, 120 VOLT SPECIFICATION GRADE DUPLEX RECEPTACLE NEWA 5-20R INSTALLED 16" A.F.F. UNLESS NOTED OTHERWISE

SAME AS ABOVE EQUIPPED WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER (GF).

20 AUP 2P, 3 Wire, grounding type, 120 yolt specification grade duplex receptacle news 5–20r installed 48° a.f.f. unless noted otherwise.

SAME AS ABOVE EQUIPPED WITH INTEGRAL GROUND FAMILY CIRCUIT INTERRUPTER (CFI).

TWO 20 AUP 2P, 3 WERE, GROUNDING TYPE, 120 YOLT SPECEFICATION GRADE DUPLEX RECEPTACLES NEWA 5-20R INSTALLED 16" A.F.F. UNLESS NOTED

20 AMP 2P; 3 Wire, Isolated ground type, 120 volt specification grade duplex receptacle nema 5–20r installed 16" A.F.F. Unless noted otherwise

CIRCUIT BREAKER PANELBOARD.

MOTOR CONNECTION, HORSEPOWER, VOLTAGE AND PHASE AS HOTED.

WALL MOUNTED JUNCTION BOX.

JUNCTION BOX WITH PLEABLE CONDUIT AND FINAL CONNECTION TO EQUIPMENT,

## **MOUNTING HEIGHT NOTE**

REFER TO ARCHITECTURAL FLOOR PLAYS FOR ADDITIONAL INFORMATION RECARDING MOUNTING HEIGHTS AND LOCATIONS OF ELECTRICAL DEVICES BEFORE ROUGH-IN.

### **ELECTRICAL ABBREVIATIONS**

AF.F. ABOVE FINISH FLOOR E.C. ELECTRICAL CONTRACTOR CIRCUIT INTERRUPTER THREE POLE U.N.O. UNLESS NOTED OTHERWISE UNY UNIVERSAL YOLTAGE BALLAST Y YOUTS

## JUNCTION BOX ROUGH-IN DETAIL

NOTES:

a. DETAILS ARE FOR REFERENCE ONLY.
b. NOT ALL DENCES ARE REQUIRED FOR THIS PROJECT,
c. PROVIDE THO CANO BACKBOKES (2" MINIMUM DEPTH) WITH ALL RECEPTACLE OUTLETS.
d. WIREMOUD TO BE UTILIZED ON EXISTING WALLS IN PUBLIC AREAS.

Data 1/14/19 Scole AS NOTED

Drawn RJB Job 1902 Sheet

REVISIONS BY 9/30/19 RB

DETAILS

NEW COMMUNITY CENTER FOR:
DARLINGTON COURT APARTMENTS
DARLINGTON LANE
CRYSTAL LAKE, ILLINOIS 60014

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THE WORK TO BE PERFORMED UNDER THE ELECTRICAL SPECIFICATIONS AND DRAWING CONSISTS OF FURNISHING ALL LABOR AND MATERIAL FOR THE COMPLETE INSTALLATION OF ELECTRICAL SYSTEMS, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

- CONDUIT AND WIRING.

  PANELBOARDS.

  ELECTRICAL EQUIPMENT AND WIRING.
- E. TELEPHONE AND DATA RACEWAY SYSTEM

THIS SPECIFICATION IS INCLUSIVE FOR EACH ITEM REQUIRING ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO PROPERLY INSTALL, ALTER, ADJUST AND PUT IN OPERATION, THE

THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER LAYOUT AND CONSTRUCTION OF THE WORK

THE DRAWINGS AND SPECIFICATIONS SHALL BE UNDERSTOOD TO COVER, ACCORDING TO THEIR INTENT AND MEANING, COMPLETE SYSTEMS AS DESCRIBED HEREIN.

MINOR ITEMS, ACCESSORIES AND DEVICES REASONABLY INFERABLE AS NECESSARY FOR THE COMPLETE AND PROPER OPERATION OF ANY SYSTEM SHALL BE PROVIDED BY THE CONTRACTOR FOR SUCH SYSTEM(S) WHETHER THEY ARE SPECIFICALLY CALLED FOR BY THE DRAWINGS

ATTENTION IS DIRECTED TO THE NECESSITY FOR CONTRACTOR TO VISIT THE SITE AND EXAMINE ALL CONDITIONS AFFECTING THE PROPER EXECUTION OF THIS CONTRACT, SUBMISSION OF PROPOSALS SHALL BE CONSIDERED EVIDENCE THAT THE CONTRACTOR HAS VISITED AND EXAMINED THE SITE.

NO EXTRA PAYMENT WILL BE ALLOWED THE CONTRACTOR FOR EXTRA WORK CAUSED BY FAILURE TO VISIT, EXAMINE AND CLARIFY.

### M. LAWS, ORDINANCES AND REGULATIONS

ALL SYSTEMS SHALL CONFORM IN FULL AND/OR PART SHALL CONFORM TO ALL PERTINENT LAWS, ORDINANCES AND REGULATIONS OF ALL BODIES HAVING JUSISOPION AT ALL GOVERNING LEVELS, INOTIMISTANDING ANTHINION IN THESE DRAWINGS OR SPECIFICATIONS TO THE CONTRARY. IN CASE OF CONFLICT BETWEEN GOVERNING LEVELS, THE MORE

THE CONTRACTOR SHALL PAY ALL FEES AND OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED BY ANY AUTHORITY HAVING JURISDICTION IN CONNECTION WITH HIS WORK.

WHERE APPLICABLE, ALL NEW MATERIAL SHALL BEAR THE UNDERWRITER'S SEAL OF APPROVAL, AS WELL AS THOSE SEALS OF ALL MUNICIPALITIES HAVING JURISDICTION CERTIFICATES TO THIS AFFECT TO BE FURNISHED TO ARCHITECT UPON REQUEST.

THE ELECTRICAL CONTRACTOR SHALL SECURE AND PAY FOR ALL LICENSES REQUIRED BY THE GOVERNING BODIES TO OPERATE AS AN ELECTRICAL CONTRACTOR FOR THIS PROJECT.

ALL WORK TO BE PERFORMED SHALL BE DONE BY QUALIFIED MECHANICS IN THE EMPLOY OF THIS CONTRACTOR ON THIS PROJECT SHALL BE SKILLED IN THE PHASES OF THE WORK TO

THE COMPLETE SYSTEM SHALL MEET THE REQUIREMENTS OF THE NATIONAL CURRENT EDITION OF THE ELECTRICAL CODE AND AS MAY BE MODIFIED BY THE LOCAL ELECTRICAL CODE.

### VI. WATERWIS AND EQUIPMENT

ALL MATERIALS AND EQUIPMENT SHALL, BE NEW AND SHALL CONFORM TO THE GRADE, QUALITY AND STANDARD SPECIFIED HEREIN.

ALL EQUIPMENT OFFERED UNDER THESE SPECIFICATIONS SHALL BE LIMITED TO PRODUCTS REGULARLY PRODUCED AND RECOMMENDED FOR SERVICE, IN ACCORDANCE WITH ENGINEERING DATA, RATINGS OR OTHER COMPREHENSME LITERATURE MADE AVAILABLE TO THE PUBLIC AND INTERFERENCE THE PUBLIC AND INTERFERENCE THE PUBLIC AND INTERFERENCE THE PUBLIC AND INTERFERENCE THE PUBLIC AND

EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR TYPE AND CAPACITY OF EACH PIECE OF EQUIPMENT USED,

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THAT WORK OF THE OTHER TRADES. CONTRACTOR IS COMPLETELY RESPONSIBLE IF FAILURE ON HIS PART TO COORDINATE EFFORTS RESULTS IN EXTRA WORK HAVING TO BE DONE TO COMPLETE A TASK. AS SUCH, HIS FAILURE SHALL NOT BE THE BASIS FOR ANY EXTRA CHARGE AGAINST THE

### VII. GROUNDING

PROVIDE ALL ELECTRICAL SYSTEM AND EQUIPMENT GROUNDS AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND AS MAY BE MODIFIED BY THE LOCAL ELECTRICAL CODE, THE NATIONAL SAFETY CODE AND ALL AGENCIES/AUTHORITIES NOTED ABOYE.

ALL WIRES SHALL BE INSTALLED IN METALLIC CONDUIT, PROVIDE THIN WALL CONDUIT (EMT) IN ALL LOCATIONS EXCEPT WHERE PROHIBITED BY CODE, EXPOSED TO MEATHER, EXPOSED TO MECHANICAL INJURY OR WHERE BURIED IN OR BELOW SLABS ON GRADE.

THE ENTIRE CONDUIT STSTEM SHALL BE INSTALLED BOTH ELECTRICALLY AND MECHANICALLY CONTINUOUS. CONDUIT FITTINGS SHALL BE SUITABLE FOR THE PURPOSE AND SHALL BE SET SCREW OR COMPRESSION TYPE ONLY. INDENTER TYPE FITTINGS ARE STRICTLY PROHIBITED.

THE COMPLETE INSTALLATION SHALL MEET ALL APPLICABLE CODE REQUIREMENTS.

WIRE AND CARLE FOR BRANCH CIRCUITS AND SECONDARY FEEDERS WITHIN THE BUILDING SHALL BE OF COPPER, THERMOPLASTIC INSULATED, TYPE THAN OR THAN, BOOVOUT. TYPE
THW MAY BE USED IN LIEU OF TYPE THAN OR THAN IN SIZES OF \$12 AND \$10 ANG IN DRY
LOCATIONS AT THE CONTRACTOR'S OPTION. MINE BENEATH OR IN THE GROWN FLOOR AND
OTHER WET LOCATIONS SHALL BE TYPE THAN ALL WIRE SHALL BE STRANDED.

NO WIRE SMALLER THAN  $\sharp 12$  awg shall be used on this project unless indicated. Low voltage control and signal circuits may be  $\sharp 18$  awg.

CONDUCTORS OF DIFFERENT VOLTAGES ("LOW VOLTAGE VS. 120/208 VOLT) SHALL NOT OCCUPY THE SAME WIRING ENCLOSURE, CABLE OR RACEWAY,

SPLICING WIRES SHALL BE DONE ONLY IN ACCESSIBLE OUTLET JUNCTION OR PULL BOXES. SPLICES SHALL BE WADE STRICTLY IN ACCORDANCE WITH THE INSTRUCTIONS OF THE CABLE MANUFACTURER USING THE METHODS AND MATERIALS RECOMMENDED BY HIM.

FOR \$10 AND \$12 WIRE, SPLICES SHALL BE MADE WITH SCOTCH-LOK CONNECTORS.

WIRE #8 AND LARGER SHALL BE CONNECTED WITH BURNDY OR EQUAL SOLDER LESS MECHANICAL

ALL CONNECTIONS SHALL BE PROPERLY TAPED WITH SCOTCH ELECTRICAL TAPE \$22, \$33 OR

### XII. JUNCTION AND PULL BOXES

JUNCTION BOXES, PULL BOXES AND TERMINAL BOXES SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS AND AT OTHER LOCATIONS AS REQUIRED TO FACILITATE THE PULLING OF CABLES. THEY SHALL BE CODE SIZED AND SHALL BE CONSTRUCTED OF CODE GAUGE GAUGNIED SHEET STELL FACH BOX SHALL BE PROVIDED WITH A SCREW-ON REMOVABLE COVER. PROVIDE FLAVEGE DOWERS ON FLUSH BOXES. BOXES SHALL BE SMOOTH, SQUARE AND SET PARALLEL WITH WALLS AND CEILING.

### XIII. CONDUIT AND ELECTRIC METALLIC TUBING

CONDUIT AND ELECTRIC METALLIC TUBING SHALL BE IN ACCORDANCE WITH ARTICLES 344 AND 358 OF THE NATIONAL ELECTRICAL CODE AND AS MAY BE MODIFIED BY THE LOCAL

CONDUIT AND ELECTRIC METALLIC TUBBIG SHALL BE GALYANIZED STEEL.

THE CONDUIT SHALL BE INSTALLED PERPENDICULAR AND PARALLEL TO THE BUILDING LINES.

ALL CONDUIT INSTALLED OVERHEAD SHALL BE RIGIDLY SUPPORTED FROM THE STRUCTURE ABOVE AND NOT FROM ANY PART OF THE ROOFING SYSTEM OR CEILING SYSTEM. CEILING SYSTEM TO INCLUDE T—BAR GRID, SUPPORT WIRES, ETC.

GENERALLY, OUTLET BOKES OF PROPER TYPE AND NOT LESS THAN 4 INCHES SQUARE OR OCTAGONAL, AS REQUIRED BY BUILDING CONDITIONS, SHALL BE PLACE AT ALL LIGHT, RECEPTACLE AND SYNTLE OUTLETS. OUTLET BOKES SHALL BE FRAULY SCRUEDE IN PLACE AND SHALL BE SET TRUE, SQUARE AND FLUSH WITH THE FINISHED SURFACES. CONTRACTOR SHALL MOVE ANY OUTLET BOX 5 FEET IN ANY DIRECTION WITHOUT COST. IF RELOCATED PRIOR TO

### XV. WIRING DEVICES

ACCEPTABLE MANUFACTURERS:

- 1. ARROW HART

SMITCHES SHALL BE OF THE AC HEAYY DUTY, 120/277 VOLT, FLUSH TOGGLE TYPE RATED AT 20 AMPERES AND UL APPROVED. ALL SMITCHES SHALL HAVE POLES AS REQUIRED AND SHALL BE SMILLAR TO HUBBELL 121. DEVICES TO BE NORY ONLY. RECEPTACLES SHALL BE POLARIZED, GROUNDED, DUPLEY, RATED 20 AMPERES AND UL APPROVED. ALL GENERAL PURPOSE RECEPTACLES SHALL BE SMILLAR TO HUBBELL NO. 5322—14 ISOLATED GROUND RECEPTACLES SHALL BE SMILLAR TO HUBBELL TO HER SHALL BE SMILLAR SHALL BE SMILLAR SHALL WITCH SHALL SH INTERRUPTER RECEPTACLES SHALL BE SIMILAR TO HUBBELL GF-5362-L

SWITCH AND RECEPTACLE PLATES IN FINISHED AREAS SHALL BE NORY WRINKLE FINISHED METAL. ALL PLATES IN SHOP AREA SHALL BE FORMED STEEL (CARVIN COVERS).

- 1. CULTER-HAVIMER
- 3. SQUARE D COMPANY

THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL PANELBOARDS AND CABINETS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.

PANELBOARDS SHALL BE DEAD FRONT, WITH CAPACITY AND VOLTAGE CHARACTERISTICS AS SHOWN ON THE SCHEDULES. MAIN BUS BARS SHALL BE COPPER AND BASED ON A CURRENT DENSITY OF NOT MORE THAN 1000 AMPERES PER SQUARE INCH CROSS SECTION AND SHALL BE FULL CAPACITY THE EMTIRE LENGTH OF THE PANEL. BUSSING SHALL BE SQUENCED SO AS TO PERMIT THE INSTALLATION OF FUSIBLE SWITCHES OR 1, 2, AND 3 POLE BREAKERS AT AND LAYS CHARLES SUITABLE FOR COORDER CAPILE. ANY LOCATION. LUGS SHALL BE SUITABLE FOR COPPER CABLE.

FUSIBLE SWITCHES SHALL BE 3 POLE, SEPARATELY COMPARTMENT WITH CLASS RK1

CIRCUIT BREAKERS SHALL BE QUICK—MADE, QUICK—BREAK, SWITCHING DUTY RATED FOR 20A BREAKERS, TRIP INDICATING AND AMBIENT COMPENSATED, WITH COMMON TRIP ON MULTI-POLE BREAKERS, STRIP INDICATING AND SHALL BE BOLIT-ON CONNECTED TO THE PARLEDAMO, MINIMUM INTERRUPTING CAPACITY SHALL BE 10,000 AND FOR 120/208 VOLT CIRCUIT BREAKERS.

BREAKERS USED FOR EXIT SIGNS, EMERGENCY LIGHTING AND NIGHT LIGHTING CIRCUITS TO BE LOCKED IN THE ON POSITION.

PANELBOARDS BOXES SHALL BE CODE GAUGE, CALVANIZED SHEET STEEL WITH 4 INCH MINIMUM SIDE GUTTERS, AND 5 INCH MINIMUM END GUTTERS. SHALL HOT EXCEED 78 INCHES ABOVE

EACH BRANCH CIRCUIT SHALL BE DISTINCTLY NUMBERED. PANELBOARD WIRING SHALL BE TAGGED AT EACH BREAKER WITH PROPER CIRCUIT NUMBER. WRAP AROUND TAPES (BRADY

PANELBOARDS SHALL CONFORM TO LATEST REQUIREMENT OF THE NATIONAL ELECTRICAL CODE AND AS MAY BE MODIFIED BY THE LOCAL ELECTRICAL CODE, UNDERWRITER'S LABORATORIES AND REMA AND SHALA DISPAY, A SERVICE SHAWANCE LABEL WHERE APPLICABLE, EACH PANELBOARD SHALL BE LEFT WITH A TYPEWRITTEN DIRECTORY, IDENTIFYING EACH LOAD, AFFIXED TO THE INSIDE COVER OF THE PANELBOARD.

PROVIDE PERMANENT IDENTIFICATION NAMEPLATE ON ALL PANELBOARDS AND DISTRIBUTION PANELS. AT FUSIBLE DISTRIBUTION PANELS PROVIDE NAMEPLATE AT EACH PIECE OF EQUIPMENT.

### XVIII. FIRE STOPPING

CONTRACTOR SHALL FIRE STOP ALL PENETRATIONS THRU FIRE RATED WALLS, PARTITIONS, ROOFS AND/OR FLOORS SO THAT THE INTEGRITY OF THE FIRE RATING IS NOT COMPROMISED BY THE CONTRACTOR'S DISTALLATION OF ANY BOX, CABLE TRAY, RACERAY AND/OR CONDUIT, FIRE STOPPING NETHOUS AND WATERALS SHALL CONFORM TO LOCAL CODE AUTHORITY REQUIREMENTS. AS A MINIMUM, CONTRACTOR SHALL GROUT AROUND ALL BOXES, CABLE TRAY, RACERAY AND THE CONTRACTOR SHALL GROUT AROUND ALL BOXES, CABLE TRAY, RACERAY CONDUITED. THE WINDERTEAD MATERIAL DEPOTRACTOR CASE. TRAYS, RACEWAYS, CONDUITS, ETC., IN PENETRATION RATED PARTITION/FLOOR CONSTRUCTION WITH NON-SHRINK GROUT SO THAT ALL OPEN SPACES ARE FILLED IN SOLIDLY.

This contractor shall provide suitably rated lighting fixtures or utilize approved materials and methods to maintain the integrity of the fire rated ceiling. Contractor shall refer to architectural plans for the location of all FIRE RATED CEILINGS, PARTITIONS AND WALLS.

THE SYSTEM OF FEEDERS AND BRANCH CIRCUITS FOR POWER AND LIGHTING SHALL BE CONNECTED IN SUCH A MANNER THAT THE CONNECTED LOADS ARE BALANCED ELECTRICALLY ON THE THREE PHASES AS CLOSELY AS POSSIBLE (WITHIN 10 PERCENT) SHOULD THE POWER COMPANY FIND AN UNFAVORABLE OPERATING CONDITION, REACTING ON THE SERVICE, THE ELECTRICAL CONTRACTOR SHALL MAKE SUCH CHANGES REQUIRED TO BALANCE THE LOAD WITHOUT ADDITIONAL COST THE COMPET

ALL WORK SHALL BE TESTED BY THIS CONTRACTOR. ALL MATERIAL, LABOR AND EQUIPMENT SHALL BE FURNISHED BY HIM TO ACCOMPLISH SUCH TESTS AS ARE REQUIRED BY THE ARCHITECT/ENGINEER.

UPON COMPLETION OF THIS WORK, THE PROJECT SHALL BE FREE FROM SHORT CIRCUITS AND GROUNDS AND A THOROUGH TEST SHALL BE MADE. ALL OYERLOAD DEVICES, INCLUDING THOSE FURNISHED UNIDER OTHER CONTRACTS SHALL BE ADJUSTED TO SUIT LOAD CONDITIONS BY THIS CONTRACTOR. ALL SYSTEMS SHALL BE TESTED AND THEIR OPERATION DEMONSTRATED.

LIGHTING EQUIPMENT SHALL BE ADJUSTED TO THE SATISFACTION OF THE OWNER.

LIGHT FIXTURES SHALL BE PROVIDED AS SPECIFIED ON DRAWINGS. ALL FIXTURES SHALL BE HUNG AND MOUNTED IN PLACE, PROPERLY WIRED, TESTED AND LEFT READY FOR OPERATION BY THE ELECTRICAL CONTRACTOR.

HANGING DEVICES, BRACKETS, ENCLOSURES AND OTHER ACCESSORIES SHALL BE PROVIDED FOR A COMPLETE INSTALLATION AND SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR. ALL FETURES SHALL BE HINGS PLUMB AND SET SQUARE AGAINST THE WALL OR CELLING OR

MOUNTING HEIGHT OF ALL FIXTURES SHALL BE CONFIRMED BEFORE INSTALLATION.

FIXTURES SHALL BE COMPLETE WITH BASE, GLASSWARE, REFLECTORS, L'AMPS, HOLDERS AND ACCESSORIES. FIXTURES SHALL BE COMPLETELY WIRED ACCORDING TO CODE. MINIMUM WIRE SIZE PREMITTED IN TRUVILE WHIP'S IS FIA AND, FLORESCENT FEATURES SHALL BE COMPLETE WITH NOISE FREE, MICH POWER FACTOR, EVERGY SAWING RAPID STATE BALLST'S WITH INTERNAL PROTECTION AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND AS MAY NATIONAL CONTRACTOR OF THE CONTRACT OF THE MATCHINE BE MODIFIED BY THE LOCAL ELECTRICAL CODE. ALL FIXTURES SHALL CARRY THE UL LABEL

where located beneath ductwork, the contractor is prohibited from puncturing the ductwork or mounting fixtures directly to the ductwork. The contractor may mount the lighting fixtures to the ductwork support members.

### CONTRACTOR TO SUBMIT SHOP DRAWINGS ON THIS ITEM.

3/4" CONDUIT WITH PULLWIRE STUBBED INTO ACCESSIBLE CEUING SPACE FOR TELEPHONE AND DATA WIRING BY OTHERS.

### XXIII. ELECTRICAL SERVICE ENTRANCE

THIS CONTRACTOR SHALL PROVIDE TRANSFORMER PAD. SECONDARY FEEDERS. METERING TRANSFORMER CABINET, METER SOCKET, MAIN SWITCH AND ALL CUTTING, PATCHING, TRENCHING AND RESTORATION

COORDINATE ALL WORK IN ADVANCE WITH COMMONWEALTH EDISON COMPANY.

THIS CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE IN WRITING ALL MATERIAL, EXUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER. THE CONTRACTOR SHALL PROVIDE FREE SERVICE FOR ALL EQUIPMENT INVOLVED IN

THE GUARANTEE SHALL INCLUDE RESTORATION TO ITS ORIGINAL CONDITION OF ALL ADJACENT WORK THAT MUST BE DISTURBED IN FULFILLING THIS GUARANTEE.

all such repairs and/or replacements shall be made without delay and at the convenience of the owner.

APPROVALS OF SUPSTITUTIONS FOR "APPROVED FOILL". MILET BE MADE IN WRITING AND APPROVALS OF SUBSTITUTIONS, FOR APPROVALE EXOME, RUSTS BE MADE AT INTIMITATION SUBSTITUTIONS AUSTS BE APPROVAL BEFORE INSTALLATION. INSTALLATION MITTINION AND REPLACING IT WITH SPECIFIED ITEM AT HIS EXPENSE.

APPROVAL MAY BE GIVEN BY ARCHITECT OR ENGINEER.

### **GENERAL NOTES - ELECTRICAL**

- CONTRACTOR SHULL FURNISH MATERIALS AND USE INSTALLATION METHODS SUITABLE FOR THE EMMONAEMIAL CONDITIONS OF THE AREA IN WHICH EQUIPMENT, FIXTURES, AND DEVICES ARE INSTALLED.
- 2. ALL CONNECTIONS TO EQUIPMENT WHICH ARE SUBJECT TO VIBRATION OR MOVEMENT SHALL BE
- THE LOCATIONS SHOWN FOR ALL LIGHTING FIXTURES AND CEILING MOUNTED ELECTRICAL EQUIPMENT ARE DIAGRAMATIC. EXACT LOCATION SHALL BE DETERMINED FROM THE REFLECTED COLLING PLANS AND/OR ON THE JOS SITE BY THE ARCHITECT/ENGINEER REPRESENTATIVES. IT SHALL BE THE CONTRACTORS, RESPONSIBILITY TO MAINTAIN CODE REQUIRED SPACINGS FOR ITEMS SUCH AS FIRE ALARM DEVICES.
- CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE FIRE RATED INTEGRITY OF FLOORS CELLINGS AND/OR WALL PARTITIONS. ALL PENETRATIONS THROUGH FIRE RATED BUILDING ELEMENTS SHALL BE EFFECTIVELY SEALED USING APPROVED MATERIALS AND METHODS, ALL LIGHTING FIXTURES MOUNTED IN FIRE RATED CEILINGS SHALL BE INSTALLED TO MAINTAIN THE INTEGRITY OF THE FIRE RATED CEILING USING APPROVED WATERWAYS AND METHODS.

NATATORIUM TECHNICAL NOTES:

- 680.25 EQUIPOTENTIAL BONDING\* (SUMMARIZED)
(A) PERFORMANCE. THE EQUIPOTENTIAL BONDING REQUIRED BY THIS SECTION SHALL BE INSTALLED TO REDUCE VOLTAGE GRADENTS IN THE POOL AREA.

(B) BONDED PARTS. THE PARTS SPECIFED IN 680.25(8)(1) THROUGH (B)(7) SHALL BE

BONDED TOGETHER USING SOLID COPPER CONDUCTORS. INSUATED COVERED, OR BARE, NOT SWALLER THAN 8 AWG OR WITH RIGID METAL CONDUIT
OF BRASS OR OTHER DENTIFED CORROSION—RESISTANT METAL.
CONNECTIONS TO BONDED PARTS SHALL BE MADE IN ACCORDANCE WITH 250.81\*. AN 8

AWG OR LARGER SOUD COPPER BONDING CONDUCTOR PROVIDED TO REDUCE VOLTAGE GRADIENTS IN THE POOL AREA SHALL NOT BE REQUIRED

TO BE EXTENDED OR ATTACHED TO REMOTE PANELBOARDS,
SERVICE EQUIPMENT, OR ELECTRODES.

(1) CONDUCTIVE POOL SHELLS BORIONG TO CONDUCTIVE POOL SHELLS SHALL BE

Provided as specifed in 680.26(b)(1)(a) or (b)(1)(b).

Poured concrete, pneuwatically applied or sprayed concrete, and concrete BLOCK WITH PAINTED OR PLASTERED CONTINGS SHALL ALL BE CONSIDERED
CONDUCTIVE NATERALS DUE TO WATER PERMEABILITY AND POROSITY, YIMIL UNERS AND
FBERGLASS COMPOSITE SHELLS SHALL BE CONSIDERED TO BE

NONCONDUCTIVE MATERIALS. NONCOMPUTINE MATERIALS.

(a) STRUCTURAL REINFORCING STEEL UNENCAPSULATED STRUCTURAL REINFORCING STEEL
SHALL BE BONDED TOGETHER BY STEEL TE WIRES OR

THE EQUIVALENT, WHERE STRUCTURAL REINFORCING STEEL IS ENCAPSULATED IN A
NONCONDUCTIVE COMPOUND, A COPPER CONDUCTOR GRID.

SHALL BE INSTALLED IN ACCORDANCE WITH 680.26(B)(1)(B)

(b) COPPER CONDUCTOR GRID. A COPPER CONDUCTOR GRID SHALL BE PROVIDED AND SHALL COMPLY WITH (8)(1) THROUGH (8)(4).

(1) BE CONSTRUCTED OF MINIMUM B AWG BARE SOLID COPPER CONDUCTORS BONDED TO EACH OTHER AT ALL POINTS OF CROSSING. THE BONDING SHALL BE IN ACCORDANCE WITH 250.8 OR APPROVED MEANS.

(2) CONFORM TO THE CONTOUR OF THE POOL

(3) BE ARRANGED IN A 300 MM (12 IN.) BY 300 MM (12 IN.) NETWORK OF CONDUCTORS IN A UNIFORMLY SPACED PERPENDICULAR GRID PATTERN

WITH A TOLERANCE OF 100 MM (4 IN.). BE SECURED WITHIN OR UNDER THE POOL NO MORE THAN 150 MM (6 IN.) FROM

(2) PERIMETER SURFACES. THE PERIMETER SURFACE SHALL EXTEND FOR 1 M (3 FT.) HORIZONTALLY BEYOND THE INSIDE WALLS OF THE POOL AND SHALL

INCLUDE UNPARED SURFACES AS WILL AS POURED CONCRETE SURFACES AND OTHER TYPES OF PAYING, PERMETER SURFACES LESS THAN 1 M (3 FT.) SEPARATED BY A PERMANENT WALL OR BUILDING 1.5 M (5 FT.) IN HEIGHT OR MORE SHALL REQUIRE EQUIPOTENTIAL BONDING ON THE POOL SIDE OF THE

FERMANDIT WALL OR BULDING, BOIDING TO PERMITERS SURFACES SHALL BE PROVIDED AS SPECIFED IN 680.26(B)(2)(A) OR (2)(B) AND SHALL BE ATTACHED TO THE POOL REINFORCHING STEEL OR COPPER CONDUCTOR GRID AT A MINHUM OF FOUR

TO THE POOL REINFORMS STEEL OR COPPER CONDUCTOR GRID AT A MINIMUM OF FOUR (4) POINTS UNIFORMLY SPACED, ARQUID THE PERMICER OF THE POOL.

FOR NONCONDUCTIVE POOL SHELLS, BONDING AT FOUR POINTS SHALL NOT BE REQUIRED.

(a) STRUCTURAL REINFORCING STEEL STRUCTURAL REINFORCING STEEL SHALL BE BONDED IN ACCORDANCE WITH 680.26(9)(1/a).

(b) ALTERNATE MEANS, WHERE STRUCTURAL REINFORCING STEEL IS NOT AVAILABLE OR IS ENCAPSULATED IN A NONCONDUCTIVE COMPOUND, A COPPER CONDUCTOR(S) SHALL BE UTILIZED WHERE THE FOLLOWING REQUIREMENTS ARE MET:

(1) AT LEAST ONE MINIMUM 8 AWG BARE SOLID COPPER CONDUCTOR SHALL BE PROMOFIL.

THE CONDUCTORS SHALL FOLLOW THE CONTOUR OF THE PERIMETER SURFACE.

ONLY LISTED SPLICES SHALL BE PERMITTED. (4) THE REQUIRED CONDUCTOR SHALL BE 450 TO 600 MM (18 M. TO 24 M.) FROM THE INSIDE WALLS OF THE POOL. (5) THE REQUIRED CONDUCTOR SHALL BE SECURED WITHIN OR UNDER THE PERMETER SURFACE 100 TO 150 MM (4 M. TO 6 M.) BELOW THE SUBGRADE.

(3) METALLIC COMPONENTS, ALL METALLIC PARTS OF THE POOL STRUCTURE, INCLUDING RENFORCING METAL NOT ADDRESSED IN 680.26(B)(1)(A),
SHALL BE BONDED, WHERE REINFORCING STEEL IS ENCAPSULATED WITH A

NONCONDUCTIVE COMPOUND, THE REINFORCING STEEL SHALL NOT BE REQUIRED

(4) UNDERWATER LIGHTING.

## (5) METAL FITTINGS.

(6) ELECTRICAL EQUIPMENT.

TERMINAL BARS

FIXED METAL PARTS. ALL FXED METAL PARTS SHALL BE BONDED INCLUDING, BUT NOT LIMITED TO, METAL-SHEATHED CABLES AND RACEMAYS,
METAL PIPING, METAL ARNINGS, METAL FERICSS, AND METAL DOOR AND WINDOW FRAMES.
EXCEPTION NO 1: THOSE SEPARATED FROM THE POOL BY A PERMANENT BARRIER THAT
PREVENTS CONTACT BY A PERSON SHALL NOT BE REQUIRED TO

EXCEPTION NO 2: THOSE GREATER THAN 1.5 M (5 FT.) HORIZONTALLY FROM THE INSIDE ENCEPTION NO 2: THOSE GREATER THAN 1.3 M (5 °T.) MORECONIALT FROM THE INSUE WALLS OF THE POOL SHALL NOT BE REQUIRED TO BE BRONDED.

EXCEPTION NO 3: THOSE GREATER THAN 3.7 M (12 °T.) MEASURED VERTICALLY ABOVE THE MAXIMUM WATER LEVEL OF THE POOL, OR AS MEASURED VERTICALLY ABOVE ABOVE ANY OBSERVATION STAILDS, TOWERS, OR PLATFORMS, OR ANY DMING STRUCTURES,

SHALL NOT BE REQUIRED TO BE BONDED. (C) POOL WATER, THE POOL WATER SHALL BE IN DIRECT CONNECTION WITH THE POOL WATER, THE POOL WATER SHALL BE IN DIRECT CONTACT WITH AN APPROVED CORROSON-RESISTANT CONDUCTIVE SURFACE THAT EXPOSES NOT LESS THAN 5800 MM2 (9 IN.2) OF SURFACE AREA TO THE POOL WATER AT ALL

TIPME 3000 MINE (3 INC2) OF 3047ALE ARCH TO THE POOR MALES AT ALL times. THE CONDICTINE SURFACE SMALL BE LOCATED WHERE IT IS NOT EXPOSED TO PHISICAL DAMAGE OR DISLODGEMENT DURING USUAL POOL ACTIVITIES, AND IT SHALL BE BONDED IN ACCORDANCE WITH 680.26(B).

250.8 CONNECTION OF GROUNDING AND BONDING FOUIPMENT™ (A) PERMITTED METHODS, EQUIPMENT GROUNDING CONDUCTORS, GROUNDING ELECTRODES CONDUCTORS, AND BONDING JUMPERS SHALL BE CONNECTED BY ONE OR MORE OF THE FOLLOWING MEANS: LISTED PRESSURE CONNECTORS

PRESSURE CONNECTORS LISTED AS GROUNDING AND BONDING EQUIPMENT
EXCHIERMIC WELDING PROCESS

AMCHINE SCRIM-TIPE FASTENERS THAT ENGAGE NOT LESS THAN TWO THREADS OR
CRIEDS WITH A MET SECURED WITH A NUT THREAD-FORMING MACHINE SCREWS THAT ENGAGE NOT LESS THAN TWO THREADS IN

CONNECTIONS THAT ARE PART OF A LISTED ASSEMBLY

OTHER LISTED MEANS METHODS NOT PERMITTED. CONNECTION DEVICES OR FITTINGS THAT DEPEND SOLEY ON SOLDER SHALL NOT BE USED. EQUIPOTENTIAL BONDING ARTICLE 680.26 \*NEC 2014 CONNECTION OF GROUNDING AND BONDING EQUIPMENT ARTICLE 250.8

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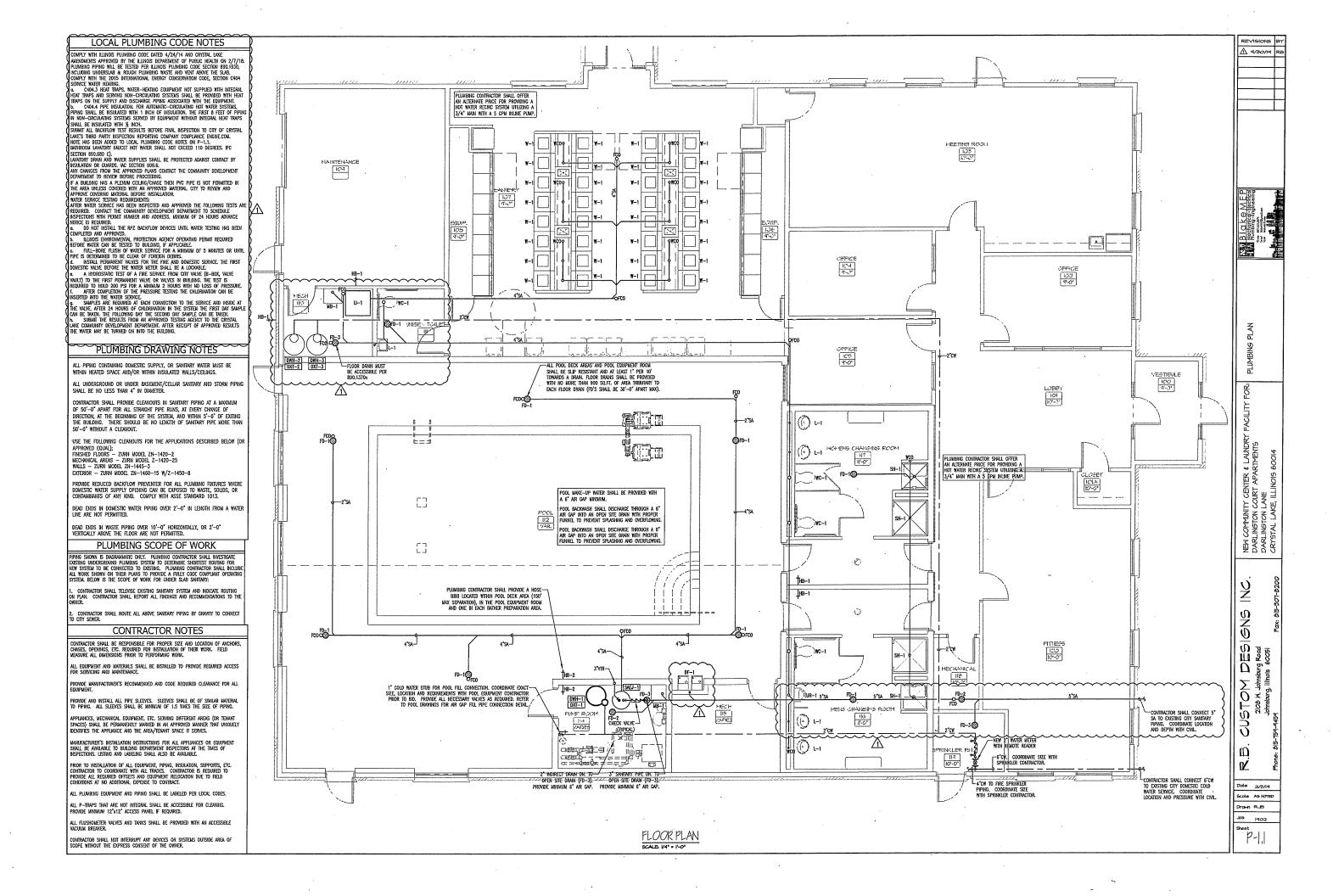
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The work covered by this specification includes the complete plumbing system.

THE WORK TO BE PERFORMED UNDER THE PLUMBING SPECIFICATIONS AND DRAWINGS CONSISTS OF FURNISHING ALL LABOR AND MATERIAL FOR THE COMPLETE INSTALLATION OF THESE SYSTEMS, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

- UNDERGROUND AND ABOVE GROUND PIPING, FIXTURES, VALVES ETC. HOT WATER HEATERS, ETC. PLUMBING SPECIALTIES

THIS SPECIFICATION IS INCLUSIVE FOR EACH ITEM REQUIRING ALL LABOR, MATERIAL AND ECOMPMENT NECESSARY TO PROPERLY INSTALL, ALTER, ADJUST AND PUT IN OPERATION, THE COMPLETE PLUMBING AND FIRE PROTECTION SYSTEM.

THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER LAYOUT AND CONSTRUCTION OF THE WORK INCLUDED IN THIS CONTRACT,

THE DRAWINGS AND SPECIFICATIONS SHALL BE UNDERSTOOD TO COVER, ACCORDING TO THEIR INTENT AND MEANING, COMPLETE SYSTEMS AS DESCRIBED HEREIN.

MNOR ITEMS, ACCESSORIES AND DEVICES REASONABLY INFERBALE AS NECESSARY FOR THE COMPLETE AND PROPER OPERATION OF ANY SYSTEM SHALL BE PROVIDED BY THE COMPACTOR FOR SUCH SYSTEM(S) WHETHER THEY ARE SPECIFICALLY CALLED FOR BY THE DRAINNESS AND/OR SPECIFICATIONS OR NOT.

DRAWINGS ARE GENERALLY DAGRAMMATIC. ROUTING OF PIPING ARE SHOWN, BUT DO NOT INTEND TO SHOW EVERY RISE, DADY, OFFSET, FITTING, NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTEDED DURANG THE INSTALLATION OF THIS WORK. CONTRACTOR SHALL BAVE ANY REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN OF HATE DRAWINGS, SUCH AS OFFSETS, BRIDS OR CHANGES HE CARRITON DUE TO CORROBATION WITH THE YORK OF OTHER TRADES AND BULDINGS CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN COMPLETION DATE OF THE PROJECT.

IT IS INTENDED THAT EQUIPMENT SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITE-CTURAL ELEMENTS OF THE BUILDING, NOTHITHSTANDING THE FACT THAT LOCATIONS NOTCATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.

CONTRACTOR SIML BE RESPONSELE AND PAY FOR ALL CORNIC, CUTTING, PATCHING, REPARAS AND REPINSHING OF BUILDING CONSTRUCTION REQUARD TO ACCOMMONATE THE INSTALLATION OF THE WORK. ALL PATCHING, REPAINING AND REPINSHING ROOK SHALL BE PERFORMED BY THOSE REGULARLY MOVINED IN THAT TRADE AND SHALL MATCH THE NEW CONSTRUCTION AS CLOSELY AS POSSIBLE. CARE SHALL BET AREA SO AS NOT TO DAVAGE ANY EXISTING BUILDING CONSTRUCTION OF REMS THAT ARE DAVAGED DIRENG THE INSTALLATION OF NEW YORK SHALL BE RAPED, REPLACED AND PAD FOR BY THE INSTALLATION OF NEW YORK SHALL BE REPARED, REPLACED AND PAD FOR BY THE INSTALLANG CONTRACTOR, TO THE SATISFACTION OF THE ARCHITECT AND OWNER.

CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CLEAN-UP DURING CONSTRUCTION, F CONTRACTOR FALS TO PROVIDE SUCH CLEAN-UP, THE ARCHITECT/ENGINEER WILL DRECT ANOTHER CONTRACTOR TO PERFORM THE CLEAN-UP, AND THE REGULERY CONTRACTOR SHALL PAY THE ASSOCIATED BACK-CHARGES AS DEDUED APPROPRIATE BY THE ARCHITECT/ BIORIEER.

CONTRACTOR SHALL FURNISH MATERIALS AND USE INSTALLATION METHODS SUITABLE FOR THE ENVRONMENTAL CONDITIONS OF THE AREA IN WHECH EQUIPMENT, PIXTURES AND DEVICES ARE INSTALLED.

CONTRACTOR SHALL PROVIDE SLEEVES IN BEAAS, FLOORS, COLUMNS AND WALLS AS-SHORN ON THE DRAWNINS, AS REQUIRED BY JOB SITE CONDITIONS, AND/OR AS SPECIFIED, WHEN INSTALLING THEIR TORK. ALL BEAUS AND COLUMNS WHICH ARE REQUIRED TO BE SLEEVED SHALL BE CUT AND REINFORCED AS REQUIRED BY FIELD CONDITIONS AND LOCATIONS AND SIZES SHALL BE CIFECTED AND APPROVED BY ARCHITECT BEFORE COMPRACTOR CUTS ANY STRUCTURAL BUILDING NELBER.

CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWNINGS (BEFORE SUBJURTING THER BDS) TO FAMILARIZE THEASILITYS WITH THE EXTENT OF THE CHEFAT CONTRACTORS WORK, CELENG HEIGHTS AND CLEARANCE FOR BESTALLING THER WORK.

SYSTEM INSTALLATION SHALL COMPLY WITH ALL APPLICABLE CODES.

ATTENTION IS DIRECTED TO THE NECESSITY FOR CONTRACTOR TO VISIT THE SITE AND EXAMINE ALL CONDITIONS AFFECTING THE PROPER DECUTION OF THIS CONTRACT. SUBJECTION OF PROPOSALS SHALL BE CONSIDERED EVIDENCE THAT THE CONTRACTOR HIS VISITED AND EXAMINED THE SITE.

NO EXTRA PAYMENT WILL BE ALLOWED THE CONTRACTOR FOR EXTRA WORK CAUSED BY FAILURE TO VISIT, EXAMINE AND CLARIFY.

### 4. LAWS, ORDINANCES AND REGULATIONS

ALL SYSTEMS SHALL CONFORM IN FULL AND/OR PART SHALL CONFORM TO ALL PERTINENT LAWS, ORDINANCES AND REGULATIONS OF ALL BODIES HAVING JUNISDICTION AT ALL GOVERNING LEVELS, NOTWITHSTANDING ANYTHING IN THESE DRAWINGS OR SPECIFICATIONS

TO THE CONTRARY. IN CASE OF CONFLICT BETWEEN GOVERNING LEVELS, THE MORE STRINGENT LAWS SHALL APPLY.

THE CONTRACTOR SHALL PAY ALL FEES AND OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED BY ANY AUTHORITY HAVING JURISDICTION IN CONNECTION WITH

WHERE APPLICABLE, ALL NEW MATERIAL SHALL BEAR THE UNDERWRITER'S SEAL OF APPROVAL, AS WELL AS THOSE SEALS OF ALL MUNICIPALITIES HAVING JURISDICTION.
CERTIFICATES TO THIS AFFECT TO BE FURNISHED TO ARCHITECT UPON REQUEST.

THE ARCHITECT. ALL MATERAL SHALL BE NOW, OF THE QUALITY SPECIFIED, FREE FROM DEFECTS AND IN FIRST-CLASS CONDITION. ALL VERTICAL PIPE SHALL BE PLUMB. ALL WORK MUST BE DONE IN WORKMANLIKE MANNER TO THE COMPLETE SATISFACTION OF

ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL CONFORM TO THE GRADE, OLMUTY AND STRONGARD SPECORED HERRIN. ALL EQUIPMENT OFFERED WIRES FRESE SPECIFICATIONS SHALL BE LUMBED TO PRODUCTS REQUIARLY PRODUCED AND RECOMMENDED FOR SERVICE, IN ACCORDANCE WITH ENGINEERING DATA, RATINGS OR OTHER COMPREHENSING, LITERATURE MORE ANALAGE TO THE PUBLIC AND IN EFFECT AT THE

UNLESS INDICATED OTHERWISE, THE ARCHITECT/ENGINEER WAKES NO REPRESENTATION AS TO WHETHER OR NOT ANY HAZARDOUS OR CONTAMBATED MATERIALS (INCLUDING AS TO MHETHER OR NOT ANY HYJARODUS OR COMMANNATED MATERIALS (MICLIDONS BUT NOT LIGHTED 10 AGSESTIOS, RES), COMMANNATED SOLS, EED, AME PRESENT MITHIN THE EXISTING BRUDDING OR ON THE SITE. WORK SHOWN ON THE DRAWNINGS AND/OR BRUCATED IN THE SPECIFICATIONS SHALL NOT ECONSTRUED TO OLAL FOR COMFACT WITH ARY OF THESE MATERIALS. IF THESE MATERIALS ARE ENCOUNTERED OR SUSPECIED THE COMPACTOR SHALL NOT DISTURB THEM AND SHALL COMPACT THE ARCHITECT/EMORE MANERALLS.

SYSTEM INSTALLATION SHALL COMPLY WITH ALL APPLICABLE CODES.

### 7. COORDINATION WITH OTHER TRADES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THAT WORK OF THE OTHER TRADES. CONTRACTOR IS COMPLETELY RESPONSIBLE IF FALURE ON HIS PART TO COORDINATE FETORIS RESULTS IN EXTRA WORK HAVANO TO BE ODNE TO COMPLETE A TASK. AS SUCH, HIS FAILURE SHALL NOT BE THE BASIS FOR ANY EXTRA CHARGE AGAINST THE OWNER.

CONTRACTOR SHALL CHECK DRAWNS OF OTHER TRADES TO VEREY THAT SPACES IN WHICH THER WORK WILL BE INSTALLED IS CLEAR OF OBSTRUCTIONS. WORK SHALL BE RESTALLED TO JUANTANI WARRAND HEORROOM AND SPACE CONDITION AT ALL POINTS IN THE BULDIAN, WHERE HEADROOM OR SPACE CONDITIONS APPER MADECUARE, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION OF THEIR WORK.

WHERE THERE IS ENDEANCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB STIE TO WORK OUT SPACE CONDITIONS, AND JAKE SAIRSPACTORY ADJUSTMENT IN DISTALLATION OF THE NEW YORK, CONTRACTOR SHALL VERBY EXACT LOCATIONS OF ALL PLUMENGS AND FIRE PROTECTION DEVICES AND EQUIPMENT PRORT TO ROUGH-IN WITH FIELD CONDITIONS, SHOP DRAWNESS AND WORK OF OTHER TRADES. EACH CONTRACTOR SHALL BE RESOURCE, AT THER OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEM FORK IF SAME WAS INSTALLED WITHOUT CONSIDER WITH THE WORY.

THE CONTRACTIOR IS REDUIRED TO SUBUIT FIVE (5) SETS OF SHOP DRAWINGS FOR MATERIAL (TEMS SPECIFICALILY DESIGNATED IN THIS SPECIFICATION AND/OR CALLED OUT FOR ON THE DRAWINGS. CONTRACTIOR IS CULTIONED THAT ANY MATERIAL TIEMS PURCHASED PRIOR TO APPROVAL OF SHOP DRAWINGS ARE PURCHASED AT CONTRACTIONS OWN TEXT AND ANY BE SUBJECT TO REJECTION BY THE ARCHITECTY ENGINEER. SHOP DRAWINGS ARE TO BE SUBMITTED TO THE GENERAL CONTRACTOR FOR HIS FORWARD.

PRODUCT SUBJUTTIL SHALL BE PREPARED IN AN ORCHAZED, LEGISLE FORMAT WITH COVER SHEET NIDICATING PROJECT, LOCATION, DATE, CONTINACTORIS) AND ENGINEER, ROWNDLUL BLOKK SPACES OF MANUAU 5 NICH BY 5 NICH SIZE FOR APPROVAL STAUPS FROM GENERAL CONTRACTOR, ARCHITECT AND ENGINEER.

ALL PRODUCTS SPECIFIED HEREIN OR ON THE DRAWINGS SHALL BE SUBJUTTED WITH THE SAUE PRODUCT TAG THAT IS USED IN THE CONSTRUCTION DOCUMENTS. WHERE A PRODUCT TAG IS NOT USED, THE SUBJUTTED, SHALL REFERENCE THE PRAGRAPH OF THIS SPECIFICATION FOR WHICH THE PRODUCT IS BEING SUBJUTTED.

REPRODUCTION OF THE CONTRACT DOCUMENTS FOR SUBMITTAL PURPOSES IS NOT ACCEPTABLE.

PIPING INSULATION ON CONDENSATE DRAIN PIPING, DOMESTIC HOT WATER AND COLD WATER PIPING TO BE RIGID MOLDED FIBERGLASS WITH "X" VALUE OF .24 AT 75 DEGREES F. WITH VAPOR BARRIER JACKET WHITE KRAFT PAPER WITH FIBER YARN ON ALUMINIZED FILM. INSULATION THICKNESS TO BE 1/2 INCH.

ALL RISULATION TO HAVE MAXIMUM 25/50 FLAME SPREAD/SMOKE DEVELOPED. SAME COMPONENT RATING FOR ACCESSORIES (ADHESIVES, MASTIC AND CEMENTS FOR FITTINGS).

DIELECTRIC UNIONS OR COUPLINGS SHALL BE USED WHERE JOINING PIPING OF

:S: BALL VALVES (BV) UP TO 2 INCHES: 600 PSI WOG, BRONZE BODY, STAINLESS STEEL FULL PORT BALL, TEFLON SEATS AND STUFFING BOX RBM, LEVER HANDLE AND SOLDER ENDS.

DOMESTIC WATER PIPENG DISINFECTION: CHLOREMATION OF PIPENG SYSTEM IN ORDER TO COMPLY WITH STATE OF ILLINOIS SAFE DRINKING WATER STANDARDS.

PIPING TESTING: PNEUMATIC AND HYDROSTATIC TESTING REQUIRED FOR THE ABOVE REFERENCED SYSTEMS.

ACCEPTABLE WANUFACTURERS - PLUMBING SPECIALTIES:

FCD: MODEL CO2400 MANUFACTURED BY ZURN (FOR UNFINISHED FLOORS)
FCD: MODEL CO2449 WANUFACTURED BY ZURN (FOR FINISHED FLOORS)
FCD: MODEL ZHAY WANUFACTURED BY ZURN (FOR HEAVY DUTY APPLICATIONS)
WCD: MODEL ZH4Y WANUFACTURED BY ZURN
CO: MODEL ZH4Y WANUFACTURED BY ZURN
WCD: MODEL ZH4Y WANUFACTURED BY ZURN

WATER HAMMER ARRESTORS: FIT WATER SUPPLY TO EACH FIXTURE OR GROUP OF FIXTURES WITH AR CHAMBER; AR CHAMBERS SAME SIZE AS SUPPLY LINE OR 3/4 INCH WHIMIUM 18 INCHES LONG.

ACCEPTABLE WANUFACTURERS — BACKFLOW PREVENTERS: A. WATTS REGULATOR B. HERSEY CO. C. NO SUBSTITUTIONS.

ANS/ASSE 1013, REDUCED PRESSURE BACKFLOW PREVENTIOR; CAST IRON BODY WITH BRONZE AND STANLESS STEEL INTERNALS, SPRING LOADED CHECK VAUKES OFFERMAN, PRESSURE RELIEF VAUK, NON-HIREADED VEHT OUTLET, BRONZE BODY BALL VAUKES AND TEST COCKS (4)-NOT OUTLET FUNNEL DRAIN AND STRAINER; WOOEL 909—54—68—61—40 WAND/KOTURNED BY WARTS REQULATOR.

AISI/ASSE 1013, REDUCED PRESSURE DETECTOR CHECK BACKFLOW PREVENTOR; CAST IRON BODY WITH THE POWY INTERIOR COATING, BROWZE SFAIS, STANLESS STEEL SPRING AND INTERNAL PARTS; TWO NOEPSEDAVITLY OPERATING CHECK VALYES WITH DEFERENTIAL PRESSURE RELIEF; PROTECTED BYPASS ASSENBLY WITH WETER, NON-THREADED VOIT OUTLET, RESULDIT WEDGE OSAY CATE VALYES; LONG RADIUS ELBOW PAPIG ARRANGEMENT AS SHOWN ON PLANS AND FOUR TEST COCKS; MODEL 909-RPDA-FO OSY-AG-EL AS MANUFACTURED BY WAITS REGULATOR.

### 12. PLUMBING FIXTURES

ACCEPTABLE MANUFACTURERS - PLUMBING FIXTURES:

- B. ELJER PLUMBINGWARE C. KOHLER CO. D. APPROVED EQUAL
- ACCEPTABLE MANUFACTURERS FLUSH VALVES: A SLOAN VALVE CO
- ACCEPTABLE WANUFACTURERS FAUCET TRIM, SUPPLIES & STOPS:
- A. CHICAGO FAUCET CO. B. APPROVED EQUAL
- ACCEPTABLE WANUFACTURERS SINKS AND SINK DRAINS: ELKAY MANUFACTURING CO.
- JUST MANUFACTURING CO. C. APPROYED EQUAL

Provide loose key stops and p-traps for each fixture. P-traps will be required to be installed provide with wall in order to accomploate off-set talpiece's on handkap layatories.

INSULATE TRAPS AND FIXTURE STOPS IN ACCORDANCE WITH ADA REQUIREMENTS.

### 13. FIRE STOPPING

CONTRACTOR SHALL FREE STOP ALL PENETRATIONS THRU FIRE RAIED MALLS, PARTITIONS, ROOFS AND/OR FLOORS SO THAT THE INTEGRITY OF THE FIRE RATING IS NOT OUPPROUNSED OF THE CONTRACTOR'S INSTALLATION OF ANY PIPE. FIRE STOPPING METHODS AND MATERIALS SHALL CONFORM TO LOCAL CODE AUTHORITY REQUIREMENTS. A MANIAUM, CONTRACTOR SHALL REQUIP PIPES IN PEDETRATION RAIDE PARTITION/FLOOR CONSTRUCTION WITH NON-SHRINK CROUTS SO THAT ALL OPEN SPACES ARE FILLED IN SOLDILY. CONTRACTOR SHALL REPERT TO ARCHITECTURAL PLANS FOR THE LOCATION OF ALL FIRE RATED CELINGS, PARTITIONS AND WALLS.

THIS CONTRACTOR SHULL UNCONDITIONALLY CHARANTEE IN WRITING ALL MATERIAL, EQUIPMENT AND MORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER. THE CONTRACTOR SHALL PROVIDE FIRE SERVICE FOR ALL EQUIPMENT INFOLVED BY HIS COMPRACT DURING THIS CHARANTEE PERIOD.

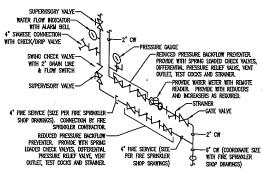
THE GUARANTEE SHALL INCLUDE RESTORATION TO ITS ORIGINAL CONDITION OF ALL ADJACENT WORK THAT MUST BE DISTURBED IN FULFILLING THIS GUARANTEE.

all such repairs and/or replacements shall be hade without delay and at the convenience of the developer and tenant.

APPROVALS OF SUBSTITUTIONS, FOR "APPROVED EQUAL", MUST BE WADE IN WRITING AND SUBSTITUTIONS MUST BE APPROVED BEFORE RISTALLATION. INSTALLATION WITHOUT PRIOR APPROVAL MAY RESULT IN CONTRACTOR REMOVING SUBSTITUTION AND REPLACING IT WITH SPECIFIED ITEM AT HIS EXPENSE.

## PLUMBING SYMBOLS NOTE: NOT ALL SYMBOLS SHOWN WAY BE REQUIRED FOR THIS PROJECT. — — — HOT WATER PIPING ST ----- UNDERFLOOR STORM DRAIN PIPE FEBOW (TURNED DOWN) — e – --- PIPE TEE DOWN (OROP) CATE VALVE CHECK VALVE PIPE UNION

|     | PLUMBING ABBREVIATIONS      |                 |                   |  |  |  |  |  |  |
|-----|-----------------------------|-----------------|-------------------|--|--|--|--|--|--|
|     | NOTE: NOT ALL ABBREVIATION  | ns shown way be | REQUIRED          |  |  |  |  |  |  |
| 00  | CLEANOUT                    | MB              | MOP BASIN         |  |  |  |  |  |  |
| Cff | DOMESTIC COLD WATER         | RCO             | RISER CLEANOUT    |  |  |  |  |  |  |
| DF  | DRINKING FOUNTAIN           | SA              | Sanitary          |  |  |  |  |  |  |
| DN  | DOMN                        | SH              | SHOWER            |  |  |  |  |  |  |
| DT  | DRAIN TILE                  | SK              | SINK              |  |  |  |  |  |  |
| DW  | DISHWASHER                  | 22              | SERVICE SINK      |  |  |  |  |  |  |
| EW  | ELECTRIC WATER COOLER       | TD              | TRENCH DRAIN      |  |  |  |  |  |  |
| FCC | FLOOR CLEANOUT              | REF             | REFRIGERATOR      |  |  |  |  |  |  |
| FD  | FLOOR DRAIN                 | UR              | URINAL            |  |  |  |  |  |  |
| FH  | Furnace Humidifier          | Y               | VENT              |  |  |  |  |  |  |
| FP  | TH FREEZE PROOF WALL HYDRAN | YTR             | YENT THROUGH ROOF |  |  |  |  |  |  |
| 600 | CLEANOUT TO GRADE           | WC              | WATER CLOSET      |  |  |  |  |  |  |
| НВ  | HOSE BIBB                   | WCO             | WALL CLEANOUT     |  |  |  |  |  |  |
| L   | LAYATORY                    | YCO             | YARD CLEANOUT     |  |  |  |  |  |  |
| ប   | LAUNDRY TUB                 |                 |                   |  |  |  |  |  |  |



DOMESTIC WATER SERVICE RISER NO SCALE

## ILLINOIS PIPING MATERIALS 890. APPENDIX A

### WATER SERVICE PIPE

CAST IRON (DUCTILE IRON)
WATER PIPE
COPPER/COPPER ALLOY PIPE CAST RON (DUCTILE ROH)

ASTM A 377-2008E1; NSF
CAS RF0-2012; ANRM C151-2009
COPPER/COPPER ALLOY PIEC
COPPER/COPPER ALLOY TUBING
ASTM B 48-2009; NSF

### WATER DISTRIBUTION PIPE

COPPER/COPPER ALLOY PIPE ASTM B 42-2010; ASTM B 302-2012; AWWA C606-2011; NSF COPPER/COPPER ALLOY TUBING ASTM B 88-2009; NSF

### (PIPE AND FITTINGS FOR CHEMICAL WASTE

DRAINAGE SYSTEMS) COPPER/COPPER ALLOY PIPE ASTN B 42-2010: ASTN B 302-2012

COPPEY/COPPEX ALLOT TUBNO (K-L OR DNY) (M JEONE GROUND)

ASTM B 178/5783—2011; ASTM B 88-2009; ASTM B 251-2010 (K-L OR DNY) (M JEONE GROUND)

POLYMINI. CHLORDE (PVC) PPE AND FITTINGS

CAS BIST.2-2009 IN BIST.

CAS BIST.2-2011 N BISCO

IDENTIFICATION OF PIPING SYSTEMS ASME A13.1-2007

## PIPE FITTINGS

CAST RON THREADED DRAINAGE FITTINGS
ASKE B16,12-2009
CAST COPPER ALLDY SOUBER PRESSURE FITTINGS
ASKE B16,18-2012
COPPER HITINGS
ASKE B16,18-2011
COPPER HITINGS
ASKE B16,15-2011; ASKE B16.51-2011; ASKE B16.8-2012
ASKE B16.18-2012
ASKE B16.18-2011
ASKE B16.18-2012
ASKE B16.18-2011
ASKE B16.18-201 CAST IRON THREADED DRAINAGE FITTINGS
CAST COPPER ALLDY SOLDER PRESSURE FITTINGS

COPPER HIMMS AND BIA.13—2011; NSW. BIA.13—2012; NSW. BIA.13—2012; NSW. BIA.13—2012; NSW. BIA.13—2012; NSW. BIA.13—2012; NSW. BIA.23—2012; NSW. BIA.23—2012; NSW. BIA.23—2012; NSW. BIA.23—2012; NSW. BIA.23—2012; NSW. BIA.23—2013; NWA C 110—2009; NWA C 151—2009

MALE BIA.2—2011 NSW. BIA.23—2013; NWA C 151—2009

ASTH. BIA.23—2013 NSW. BIA.23—2013; NSW. BIA

PLUMBING FIXTURE FITTINGS (VALVES, FAUCETS, ETC.)
STEEL ASME B 16.9-2012; ASME B 16.11-2011 ASME A112.18.1-2012/CSA B125.1-2012

WROUGHT COPPER/BRONZE SOLDER PRESSURE FITTING WROUGHT STEEL BUTTWELDING FITTINGS WROUGHT STEEL BUTTWELDING SHORT RADIUS ELLS

ASME B 16.22-2012 ASME B16.9-2012 ASME B16.9-2012

### PLUMBING CODE NOTES

ALL PLUMBING WORK MUST MEET THE LATEST ILLINOIS PLUMBING CODE.

PROVIDE APPROVED BACKFLOW PREVENTERS AS REQUIRED BY LOCAL CODES. ALL PIPING SHALL BE PROTECTED FROM CORROSION PER LOCAL CODES.

REDUCED PRESSURE BACK FLOW PREVENIER (RPZ) SHALL BE INSTALLED IN THE POTABLE MATTER SUPPLY TO EACH LOCATION WHERE SAMIRZIAN CHEMICALS ON DETERMENTS MALL BE ASSPARED ON PUSHED BY MATTER PRESSURE MACHUMA BREAKERS ARE PROPERTIED IN LLINOS.

INCOMING WATER SERVICE PIPE SHALL HAVE AN APPROVED REDUCED PRESSURE BACKFLOW PREVENTER (RPZ) INSTALLED IN-LINE OF FOULL PIPE DAMETER OF THE WATER SERVICE AND SHALL BE LOCATED NO MORE THAN FIVE (S') FEET ABOVE THE FAISHED FLOOR.

ALL REDUCED PRESSURE BACKFLOW PREVENTER (RPZ) ASSEMBLES SHALL BE TESTED AND APPROVED BY A CROSS CONNECTION CONTROL DEVICE RESPECTOR (CCCD)
BEFORE BUTIAL OPERATION, AND AT LEAST ANNUALLY THEREAFTER. WATER HEATER SHALL INCLUDE EACH SAFETY DEVICE, VALIVE LOCATION, SAFETY PAH AND DECHANGE PPING OF ANY SAFETY DEVICE. ASSOCIATED DEVANSON TAINS SHALL BE PROPERLY SZED. THE VACUUM REHER VALVE SHALL BE LOCATED IN THE COLD WATER SUPPLY TO THE HEATER WITH NO VALVES OR OTHER DEVICES LOCATED BERTMENT HE LOPANSON TAIN. AND THE HEBUER.

LAVATORY AND HAND SINK SHALL NOT HAVE EXPOSED WATER OR WASTE PIPES OR ABRASNE SURFACE BUT SHALL BE COVERED WITH PROTECTIVE GUARDS.

Water closet bowls for public use shall be elongated type and the seats shall be an antimerobial plastic material and open—front style.

AVATORIES MUST BE SUPPLIED WITH TEMPERED WATER PER SECTION 890,680.

WATER PIPING TO BE INSTALLED WITH ISOLATION VALVES PER SECTION 890,1190.

NEW PLUMBING SYSTEMS NOT PREVIOUSLY TESTED SHALL BE PRESSURE TESTED WITH WATER OR AIR 0 75 LB OF PRESSURE AT TIME OF ROUGH INSPECTION.

THE PLUMBING CONTRACTOR MUST PROVIDE A LETTER OF INTENT ON COMPANY LETTERHEAD WITH THE LECHESE HOLDERS SIGNATURE, A CORPORATE SEAL (F NECORPORATED) OR NOTARZED (F NOT INCORPORATED) FOR ALL PERMIT APPLICATIONS PER THE STATE OF ILLINOS PUBLIC ACT 094-0132 AND THE LETTER SHALL INCLUDE

ISOLATION VALVES MUST BE PROVIDED IN ACCORDANCE WITH ILLINOIS PLUMBING CODE SECTION 890,1190.

STEEL CLAMPING RING BY GEN. CONTRACTOR

SPLICING CEMENT

PLUMBING VENT THROUGH ROOF (VTR) DETAIL

NOTE: SEE PLAN FOR LOCATIONS

TYPICAL ROOF CONSTRUCTIO

### **GENERAL NOTES - ALL CONTRACTORS**

- DRAWINGS ARE GENERALLY DUGRAMMATIC. ROUTING OF PIPING, DUCTRORK, CONDUTTS, RACEMAYS, ETC, AS SOMNI ON DRAWINGS, DOES NOT INTERD TO SHOW EVERY RISE, BOOP, OFFSET, FITTING NOR EVERY STRUCTURAL ELEMENT THAT MAY BE DICCOUNTERED DURING THE MISTILLATION OF THIS WORK. FACH CONTINCTOR SHALL MAKE MY REQUIRED CHANGES FROM THE GENERAL DURING SHOWN OF HEESE DRAWINGS, SUCH AS OFFSETS, BEIDG OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND BRIDDINGS CONSTRUCTION, ALL CHANGES SHALL BE MUST HITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN COMPLETION DATE OF THE PROJECT.
- IT IS INTENDED THAT EQUIPMENT SHALL BE LOCATED STAMETRICALLY WITH THE ARCHITECTURAL ELEMENTS OF THE BUILDING, NOTMITISTANDING THE FACT THAT LOCATIONS PROCEDED BY THESE DRAWINGS WAY BE DISTORTED FOR CLEARNESS OF PRESENTATION.
- CONTRACTOR SHALL CHECK DRAWNINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THERE WORK WILL BE WISTALLED ARE CLEAR OF DISTRICTIONS. MORE SHALL BE WISTALLED TO AWARDAN MANUAN HEADROOM AND SPACE CONDITION AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR PRODUCTION OF THE WORK.

  OUTWINGTOR SHALL NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE RISTALLATION OF THEIR WORK.
- CONTRACTOR SHALL FURNISH OTHER TRADES ADVANCE REFORMATION AND/OR SHOP DEARNINGS ON LOCATIONS AND SIZES OF PRIME, DUCTHORK, CONDUT, RACEMAYS, EQUIPMENT, PRIMES, BOXES, SLEEPS AND OFENISS, ETC. NEEDED FOR THEIR WORK TO PERMIT OTHER TRADES AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.
- WHERE THERE IS EVOLENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRUCES, ALL TRADES SHALL WEET ON JOB SITE TO WORK OUT SPACE COMMINISM AND MAKE SHAFECTORY AUDISTINETS TO INSTILLATION OF THE 16PM WORK. CONTRACTORS SHALL VEREIF EXACT LOCATIONS OF ALL DEVICES AND EQUIPMENT WITH FIELD COMMINISMS, SHOP DOWNINGS, AND WORK OF OTHER TRADES FROM TO BROUGH-HOUR CONTRACTOR SHALL BE RESPONSIBLE, AT THERE OWN EXPENSE, FOR THE RELEVAL AND REIGHTLANDING OF ANY FRAT OF THEM WORK FE SHALE WIS INSTILLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE INSTILLING THEM WORK.
- THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTORS ON THE PROJECT AND IN STRICT ACCORDANCE WITH ARCHITECT/ ENGREER AND OWNERS STIPULATION AS CALLED FOR IN THE SPECIFICATION AND/OR AS DIRECTED.
- CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWNESS (BEFORE SUBMITTING THEIR BIDS) TO FAMILARZE THEIRSELYES WITH THE EXTENT OF THE GENERAL CONTRACTORS WORK, CEILING HEIGHTS AND CLEARANCE FOR RESTALLING THEIR WORK.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CLEAH-UP DUBING CONSTRUCTION.
  F CONTRACTOR FAILS TO PROVIDE SUCH CLEAH-UP, THE ARCHITECT/CONSIECTS MILL
  DESCET ANOTHER CONTROCTOR TO PERFORM THE CLEAH-UP AND THE INSDICATION OF SHALL PAY THE ASSOCIATED BUCK-CHARGES AS DEEMED APPROPRIATE BY THE ARCHITECT/
  BIOGREPS.
- CONTRACTOR SHALL INSTALL ALL AUDILIARY SUPPORTING STEEL AS REQUIRED FOR THE SUPPORTING OF THEE PIPING, DUCTNORK, CONDUST, TANCS, EQUIPMENT, ETC., ALL SUPPORTING STEEL FOR ITEMS ABOVE A SUSPENDED CEILING SHALL BE FROM BUILDING STRUCTURAL MEMBERS ONLY.
- CONTRACTOR SHALL STORE ALL MATERIALS AND EQUIPMENT SHIPPED TO THE SITE IN A PROTECTED AREA. IF WATERIAL IS STORED OUTSDE OF THE BUILDING, IT WISTS BE STORED OF THE REQUADA. MANIAL OF SS. NOISES (6) SS TO IN 6 X 6 PAURS AND/OR WOOD PALLETS. ALL MATERIAL AND EQUIPMENT WIST BE COMPLETELY CONTRICTS WITH MATERIANOF THESE OF VISIONAL ALL PEPING AND DUCTHONEY MALL HAVE THE SIDE CLOSED TO KEEP OUT DRIT AND OTHER DEBRIS. NO EQUIPMENT MILL BE ALLOWED TO BE STURED ON THE SITE WALLSS IT IS SITTING ON WOOD PLANKS AND COMPLETELY PROTECTED MITH WEATHERPROF COOPESS.
- 11. THE DRAWNICS, SCHEDNESS AND SPECIFICATIONS HAVE BEEN PREPARED USING ONE MANUFACTURER FOR EACH PIECE OF EURIPHORT AS THE BASS FOR DIMERSIONAL DE IT HE CONTRACTOR PRINCESSES EURIPHORT LEIDE AS SPECIFIED ACCEPTABLE MANUFACTURER DEUT IS NOT THE SCHEDULED MANUFACTURER USED FOR THE BASE DESCH. THE CONTRACTOR SALL BE RESPONSEE FOR CHECKON ALL THE DIMERSION OF THE EQUIPMENT TO VERIFY THAT IT WILL IT IN THE SPACE SHOWN ON THE DRAWNICS, LINGOR DEVANIONS IN DIMERSIONS AND EURIPHON THILL PRINCESSE. PROVIDED THE RITHINGS WELT THOSE SHOWN ON THE PRAWNICS AND EURIPHONE THILL PRINCESSES AND THE SPACE ALLOSSED WITH STRONGED THE RESPONSED THE SPACE ALLOSSED WITH STRONGED THE RECORD THE SPACE ALLOSSED WITH STRONGED THE PROVINCE THE RATHER SPACE ALLOSSED WITH STRONGED THE SPACE ALLOSSED WITH STRONGED THE PROVINCE THE PROVINCE THE PROVINCE THE RATHER SPACE ALLOSSED WITH STRONGED THE PROVINCE T
- 12. CONTRACTOR AND/OR MANUFACTURER SHALL YERBY THAT THE CHARACTERISTICS OF THE EQUIPMENT HE SUBMITS FOR REVIEW MEETS THE CAPACITY AND DUTY SPECIFIED.
- 13. WHEN EQUIPMENT IS SUBJUITED FOR REVIEW AND DOES NOT MEET THE PHYSICAL SIZE OR ARRANGEMENT OF HAM SCHEDULED AND SPECIFIEL CONTRACTOR SPALL PAY FOR ALL ALTERATIONS RETURNED TO ACCOMMENDED SUFFLE REQUIRED IT MONORE. COMPACTOR WILL ALSO PAY ALL COSTS TOR ADDITIONAL OWNER REQUIRED BY OTHER COMPACTORS, OWNER, ACCHIECT OR REGULERED TO WAVE CHANGES TRUCK MOVED ACKIECT TO REGULERED TO ALLOW THE EQUIPMENT TO FIT IN THE SPACE AND FUNCTION AS INTENDED.

## GENERAL NOTES - PLUMBING

- ALL WATER SUPPLY PIPING SHALL BE INSULATED, INCLUDING ALL PIPING WITHIN CELLINGS, INSIDE EQUIPMENT, CABINETS, PIPE CHASES AND IN WALLS. SEE SPECIFICATIONS FOR
- PITCH ALL SUPPLY WATER LINES TO DRAIN COMPLETELY THROUGH LOWER EQUIPMENT FIXTURES, URBONS, OR DRAIN VALYES. RISTALL A 1/2" DRAIN VALVE WITH 3/4" HOSE. THREAD AND VALUMUE BERKER OUTLET IN ALL WAVM PEPING RUNS WHICH WOULD NOT BE ABLE TO DRAIN THRU A LOWER PIECE OF EQUIPMENT.
- ALL YEHT AND WASTE PIPING SZES ARE MUREUUM. ADUTIONAL YEHTS SHALL BE ADDED AND/OR PIPE SIZE INCREASED AS REQUIRED BY APPLICABLE CODES, STATIVIES AND REGULATIONS, ETC. WITHOUT ADUTIONAL COST TO THE OWNER. PROVIDE ACCESS PANELS AT ALL CLEANOUTS AND VALVES LOCATED BY WALLS OR CEILINGS WHICH ARE INACCESSIBLE. COORDINATE LOCATIONS AND TYPES WITH ARCHITECT.

LOCKING NUT SUPPORT NUT -VAPOR BARRIER JACKET HANGER OF SIZE TO FIT AROUND PIPE COVERING O.D. ----- WATER PIPE PREMOLDED PIPE SEAL BY GENERAL CONTRACTOR PIPE INSULATION —— (SEE SPECIFICATIONS) 2" MIN. --BLOCKING OF HIGH DENSITY METAL DECK CLOSURE BY GENERAL CONTRACTOR INSULATION PROTECTION PIPE SIZE LEPISTH (°L") MIN. GAUGE
UP TO 3/4" 8" 20 GA
1" TO 2" 12" 18 GA
2-1/2" TO 4" 12" 16 GA - Bracing by Plumbing Contractor Galyanzed Steel Sheet Metal Pipe Sheeld by insulation installer INTERIOR VENT PIPPIG BY PLUMBING

PIPE COVERING PROTECTION SHIELDS AND CLEVIS HANGER DETAIL

REVISIONS BY

9/30/19 RB

N. Bloken

ABING DET PE S

NEW COMMUNITY CENTER & DARLINGTON COURT APART DARLINGTON LANE CRYSTAL LAKE, ILLINOIS 60

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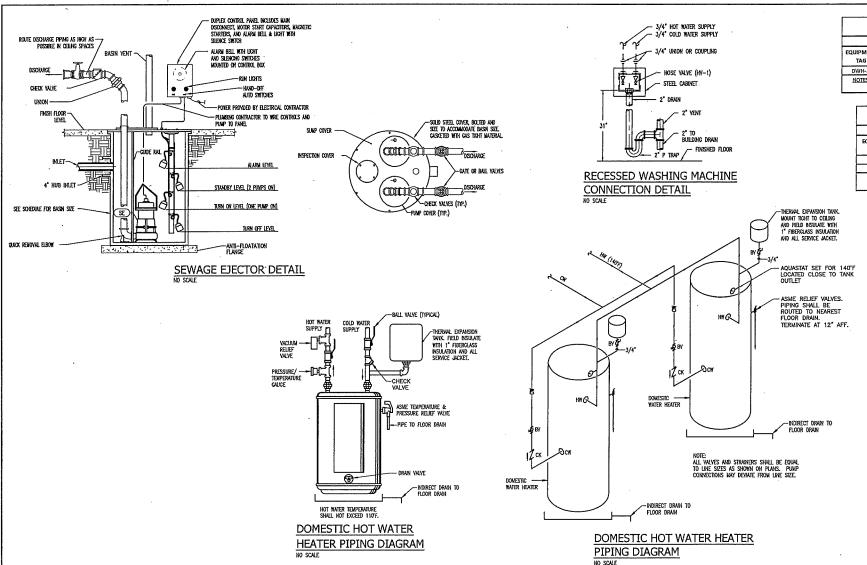
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8 Road 60051 ш  $\mathbb{N}$ 

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 $\dot{\alpha}$ Date 2/5/19

Scale AS NOTED Drawn RJB Job 1902



|           | GAS FIRED WATER HEATER SCHEDULE |            |               |                   |           |           |        |          |         |                     |          |              |                        |      |       |       |         |
|-----------|---------------------------------|------------|---------------|-------------------|-----------|-----------|--------|----------|---------|---------------------|----------|--------------|------------------------|------|-------|-------|---------|
|           | GENERAL                         |            |               |                   |           |           |        |          |         |                     | H        | EATING       | ELECTRICAL             |      |       |       |         |
| EQUIPMENT | MANUFACTURER MODEL U            |            | UNITTYPE      | CAPACITY CAPACITY |           | TY WEIGHT |        |          | is (INC | HES)                | INPUT    | RECOVERY     | MCA                    | мосе | DHASE | VOLTE | NOTES   |
| TAG       | MINIOPACIONEX                   | WILL       | DATISEL       | (GALLONS)         | (LBS.)    | LENGTH    | DEPTH  | HEIGHT   | FLUE    | COMBUSTION AIR      | (CFH)    | @90*FRISE    | E MCA MOCP PHASE VOLTS |      |       |       |         |
| DWH-1     | AO SMITH                        | BTF-80     | DIRECTIVENT   | 74                | 345       | 25-3/8    | 25-3/8 | 68       | 4       | 4                   | 80       | 80 GPH       | 2.5                    | 15   | 1     | 120   | 1,2,3,4 |
| NOTES     | 1. UNIT DIMENSION               | S INCLUDE. | ASSOCIATED BR | ACKETS AND F      | IPE CONNE | CTIONS    |        | 3. UNITS | IALL BE | MANUFACTURED FOR    | A MINIMA | JM OF 50 PSI |                        |      |       |       |         |
| L         | 2. PROVIDEUNITMO                | OUNTED DI  | CONNECT       |                   |           |           |        | 4. MINIM | JM 24°  | x24"x6"x6" CLEARANC | E REQUIR | ED FOR MAINT | ENANC                  | E    |       |       |         |

|                  | ELECTRIC WATER HEATER SCHEDULE      |          |                 |                       |                  |      |            |        |               |  |            |        |       |       |         |
|------------------|-------------------------------------|----------|-----------------|-----------------------|------------------|------|------------|--------|---------------|--|------------|--------|-------|-------|---------|
|                  | GENERAL                             |          |                 |                       |                  |      |            |        | HEATING       |  | ELECTRICAL |        |       |       |         |
| EQUIPMENT<br>TAG | MANUFACTURER                        | MODEL    | UNITTYPE        | CAPACITY<br>(GALLONS) | WEIGHT<br>(LBS.) | DIME | NSIONS (II | HEIGHT | INPUT<br>(KW) | RECOVERY CAPACITY @<br>90 DEGREE RISE (GPH)    | мса        | моср   | PHASE | VOLTS | NOTES   |
| DWH-2            | AO SMITH                            | HPTU-80N | ELECTRIC HYBRID | 82                    | 307              | 27   | 27         | 69     | 4.5           | 84.0   | 15.6       | 20     | 3     | 208   | 1,2,3,4 |
| DWH-3            | AO SMITH                            | HPTU-BON | ELECTRIC HYBRID | 82                    | 307              | 27   | 27         | 69     | . 4.5         | 84.0   | 15.6       | 20     | 3     | 208   | 1,2,3,4 |
| NOTES            | 1. UNIT DIMENSION 2. PROVIDE UNIT M |          |                 | ETS AND PIPE (        | ONNECTIO         | NS   |            |        |               | LEARANCE REQUIRED FOR<br>URED FOR A MINIMUM OF |            | ENANCE |       |       |         |

|      |                       | GENERAL               |                 |               | TOTAL  | L NEW F | XTUREL | INITS |        | PIPE   | SIZES |     |
|------|-----------------------|-----------------------|-----------------|---------------|--------|---------|--------|-------|--------|--------|-------|-----|
| TAG  | FIXTURE TYPE          | VALVE                 | REMARKS         | QUANTITY      | COLD   | HOT     | SFU    | DFU   | DRAIN  | VENT   | COLD  | но  |
| DF-1 | NEW DRINKING FOUNTAIN |                       | ADA DUAL HEIGHT | 1             | 0.25   |         | 0,25   | 0.25  | 1 1/2" | 1-1/2" | 3/8*  |     |
| FD-1 | NEW FLOOR DRAIN       |                       | TRAP PRIMER     | 9             |        |         |        | 27    | 2*     | 2"     |       |     |
| FD-2 | NEW FLOOR DRAIN       |                       |                 | 2             |        |         |        | 6     | 2*     | 2*     |       |     |
| FD-3 | NEW OPENSITE DRAIN    |                       |                 | 3             |        |         |        | 18    | 4*     | 2"     |       |     |
| H8-1 | NEW HOSE BIBB         | BACKFLOW PREVENTER    |                 | 4             | 16     |         | 16     |       |        |        | 1/2"  |     |
| HB-2 | NEW HOSE BIBB         | BACKFLOW PREVENTER    |                 | 2             | 8      |         | 8      |       |        |        | 3/4"  |     |
| L-1  | NEW PUBLIC LAVATORY   | INTEGRAL MIXING VALVE |                 | 5             | 5      | 5       | 10     | 10    | 2"     | 1-1/2" | 1/2"  | 1/2 |
| MB-1 | NEW MOP BASIN         | BACKFLOW PREVENTER    |                 | 2             | 4      | 4       | 6      | - 6   | 3°     | 2*     | 1/2*  | 1/2 |
| SH-1 | NEW PUBLIC SHOWER     | INTEGRAL MIXING VALVE |                 | 4             | 8      | 8       | 12     | 12    | 3*     | 2*     | 1/2°  | 1/2 |
| UR-1 | NEW URINAL            | FLUSH TANK            |                 | 1             | 3      |         | 3      | 3     | 31     | 2"     | 1/2"  |     |
| W-1  | NEW WASHER (20 LB)    | BACKFLOW PREVENTER    | STANDPIPE DRAIN | 32            | 96     | 96      | 128    | 128   | 2"     | 1.5"   | 1/2"  | 1/2 |
| WC-1 | NEW WATER CLOSET      | FLUSH TANK            |                 | 4             | 16     |         | 16     | 16    | 4"     | 31     | 1/2"  |     |
|      |                       |                       | . TOTAL         | 69            | 156.25 | 113     | 199,3  | 226,3 |        |        |       |     |
|      |                       | 104                   | IMUM RECOMMEN   | DED PIPE SIZE | 2"     | 2"      | 2"     | 5"    |        |        |       |     |

. ALL FIXTURES SHALL BE PROVIDED WITH ACCESSIBLE SHUT OFF VALVES AT COLD AND HOT WATER PIPING CONNECTIONS 5. ALL SINKS, BATH, & SHOWER VALVES SHALL BE PROVIDED WITH APPROVED AUTOMATIC SAFETY WATER MIXING DEVICE AND PRESSURE BALANCE

7. PROVIDE INSULATION FOR ALL PIPING IN EXTERIOR WALLS.

|                  |                         | SEV       | NAGE EJEC                             | TOR PL                | JM    | P SC            | HE   | DU      | LE      |         |       |       |       |
|------------------|-------------------------|-----------|---------------------------------------|-----------------------|-------|-----------------|------|---------|---------|---------|-------|-------|-------|
|                  |                         |           | GENERAL                               |                       |       |                 | М    | TOR     |         | ELECT   | RICAL |       |       |
| EQUIPMENT<br>TAG | MANUFACTURER            | MODEL     | PUMP TYPE                             | SYSTEM TYPE           | GPM   | FEET OF<br>HEAD | НР   | RPM     | MCA     | моср    | PHASE | VOLTS | NOTES |
| SAEJ-1           | ZOELLER PUMP<br>COMPANY | M267      | DUPLEX SEWAGE<br>EJECTOR PUMP & BASIN | SEWAGE (2"<br>SOLIDS) | 90.0  | 10              | 0.50 | 1725    | 10.40   | 15      | 1     | 120   | 1,2,3 |
| NOTES            | 1. SYSTEM MUST BE       | FACTORY   | WIRED, TESTED AND CALI                | BRATED.               |       | 3. PROVID       | EWIT | H ANTI- | FLOATAT | TON DEV | TCE.  |       |       |
|                  | 2. PROVIDE DOUBLE       | E CHECK V | ALVE ON VERTICAL SECTIO               | N OF DISCHARGE        | PIPE. |                 |      |         |         |         | ,     |       |       |

| LINT INTERCEPTOR SCHEDULE |                          |                  |                       |                  |  |  |  |  |  |  |  |  |
|---------------------------|--------------------------|------------------|-----------------------|------------------|--|--|--|--|--|--|--|--|
| TAG                       | MANUFACTURER & MODEL     | PH               | YSICAL DATA           | CAPACITY         |  |  |  |  |  |  |  |  |
| U-1                       | ZURN MODEL Z1185 SIZE 10 | 4" PIPE OPENINGS | 33"x33"x28" ENCLOSURE | 100 GPM CAPACITY |  |  |  |  |  |  |  |  |

| EXPANSION TANK SCHEDULE |              |       |                       |        |                    |       |  |  |  |  |  |  |
|-------------------------|--------------|-------|-----------------------|--------|--------------------|-------|--|--|--|--|--|--|
| EQUIPMENT<br>TAG        | MANUFACTURER | MODEL | CAPACITY<br>(GALLONS) | WEIGHT | DIMENSIONS (INCHES |       |  |  |  |  |  |  |
| DXT-1                   | AOSMITH      | PMI-5 | 4.6                   | 4.5    | 11                 | 14.75 |  |  |  |  |  |  |
| DXT-2                   | AOSMITH      | PMI-7 | 7.0                   | 7      | 11                 | 21.25 |  |  |  |  |  |  |
| DXT-3                   | AOSMITH      | PMI-7 | 7.0                   | 7      | 11                 | 21.25 |  |  |  |  |  |  |

| EQUIPMENT   | QUANITY      | DEMAND PER UNIT<br>(GALLONS PER HOUR)                | GALLONS<br>PER HOUF             |  |  |  |  |  |  |
|---|--------------|--|---------------------------------|--|--|--|--|--|--|
| Lavatory  | 4            | 2  | 8                               |  |  |  |  |  |  |
| Shower  | 4            | 20   | 80                              |  |  |  |  |  |  |
| Map Sink  | 1            | 5  | 5                               |  |  |  |  |  |  |
| Total gallons per hour (GPH) recovery requirements (for 140 F) 93 |              |  |                                 |  |  |  |  |  |  |
| Water heaters must be sized at the 110 F GPH recovery rate for 64 |              |  |                                 |  |  |  |  |  |  |
| DWH-2 & 3 CALCULATIONS  |              |  |                                 |  |  |  |  |  |  |
| DWH-2   | & 3 CA       | LCULATION  | S                               |  |  |  |  |  |  |
| DWH-2   | & 3 CA       | DEMAND PER UNIT<br>(GALLONS PER HOUR)                | GALLONS<br>PER HOUR             |  |  |  |  |  |  |
|   | Ţ            | DEMAND PER UNIT                                      | GALLONS                         |  |  |  |  |  |  |
| EQUIPMENT   | QUANITY      | DEMAND PER UNIT<br>(GALLONS PER HOUR)                | GALLONS<br>PER HOUS             |  |  |  |  |  |  |
| EQUIPMENT 20 LB Clothes Washer                                    | QUANITY      | DEMAND PER UNIT<br>(GALLONS PER HOUR)<br>6           | GALLONS<br>PER HOUR<br>192      |  |  |  |  |  |  |
| EQUIPMENT 20 LB Clothes Washer Lavatory                           | QUANITY 32 1 | DEMAND PER UNIT<br>(GALLONS PER HOUR)<br>6<br>2<br>5 | GALLONS<br>PER HOUS<br>192<br>2 |  |  |  |  |  |  |

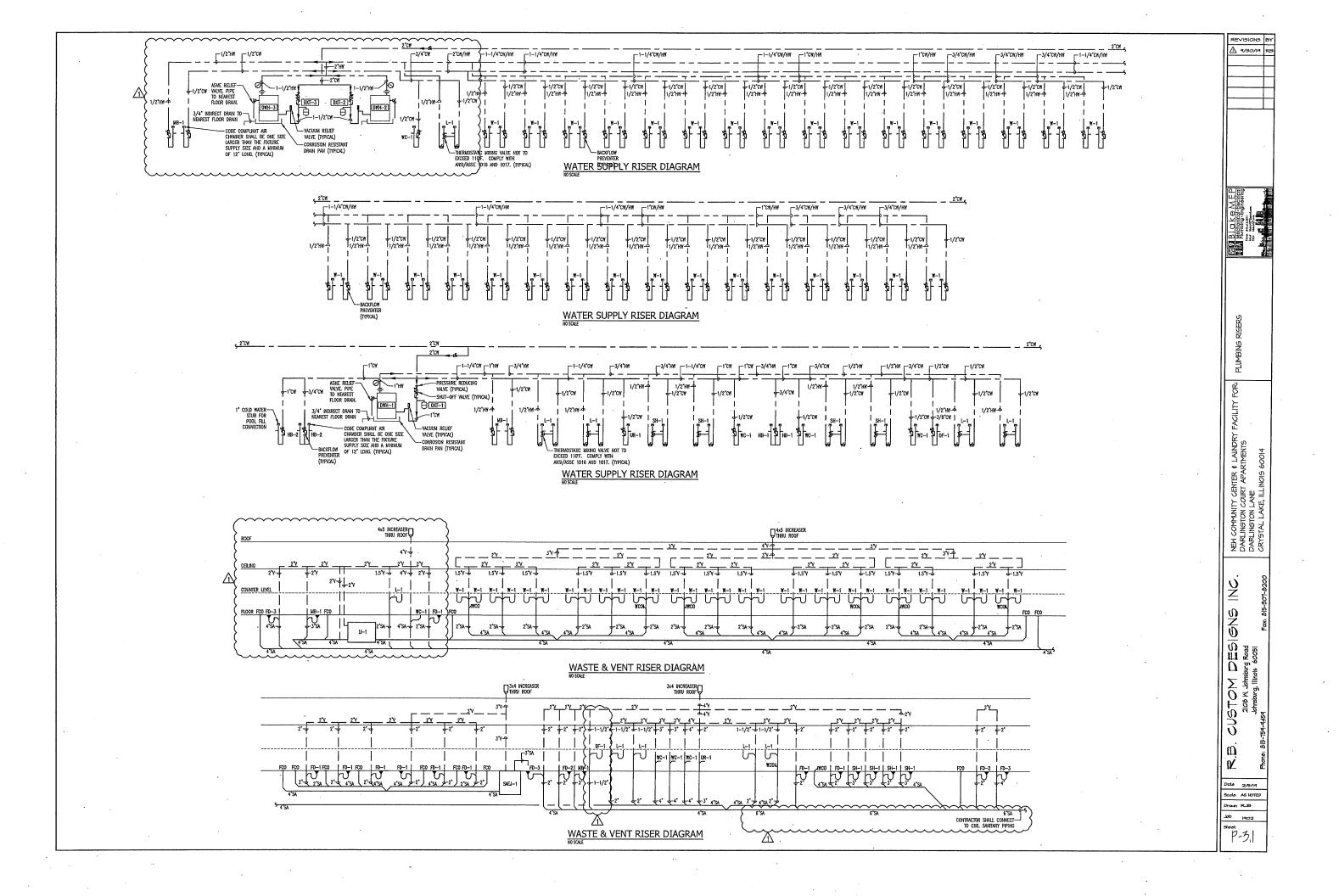
**DWH-1 CALCULATIONS** 

REVISIONS BY 9/30/19 RB

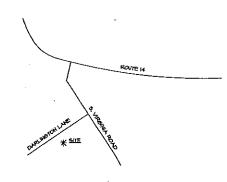
INC. DESIGNS Isburg Road CUSTOM 2108 W. Johnst Johnsburg, Illino –759–9459

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œ Date 2/5/19 Scale AS NOTED Drawn RJB Job 1902



# NEW TRASH COMPACTOR FOR: DARLINGTON COURT APARTMENTS DARLINGTON LANE CRYSTAL LAKE, ILLINOIS 60014



### GENERAL NOTES

L ALL HORK SHALL COMPLY HITH THE R.LE AND REGULATIONS OF APPLICABLE BUILDING AND ZORNIG CODES AND ALL OTHER ANTHORITIES HAVING LIRISDICTION.

### SITE & BUILDING STATISTICS

MECHANICAL CODE ELECTRICAL CODES BERRY CODE FRE CODE

FUEL 6A5 COOK

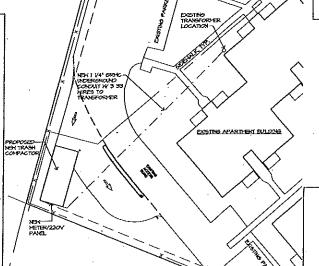
COESBLITY COOK

2018 INTERNATIONAL HECHANICAL CODE HY AMERICATIS 20% INTERNATIONAL FIRE CODE N/ AMERICA ENTS 200 INTERNATIONAL RIEL 645 CODE NY AMERINANT 20-8 STATE OF LLINOS ACCESSIBILITY CODE

### DRAWING INDEX

TITLE SHEET, BLDG. STATS , DRAWNS NOTX , GENERAL NOTES TRASH CO-PACTOR BÉVATIONS; FLOOR FLAN, FOUNDATION FLAN, DETAILS

|                 |                       |                 |                       |       | ABBRE                    | VIATIO            | 45                     |                         |                        |         |                         |
|-----------------|-----------------------|-----------------|-----------------------|-------|--------------------------|-------------------|------------------------|-------------------------|------------------------|---------|-------------------------|
| AÐ.             | ANCHOR BOLT           | d               | PENY (KAL)            | HD    | FLOOR DRAIN              | LAH               | LAMMATED               | ¢π                      | GUARRY TILE            | 1/      | TOP OF                  |
| 2               | AR CONDITIONNO        | DEL.            | POLBLE                | Æ     | FIRE EXTINGUISHER        | LAY               | LAYATORY               | Ψ.                      |                        | TAB     | TOP AND BOTTOM          |
| ÃC              | ACOUSTIC              | D <del>E9</del> | DEGREE                | PES   | FRE EXTNOUSHER CASNET    | u                 | LIVE LOAD              | R                       | RISER                  | TER     | TONGLE AND GROVE        |
| YO1             | ADJISTABLE            | DF.             | DRINKING FOUNTAIN     | FH    | FIRE HYDRANT             | ШH                | LONG LES HORIZONTAL    | RAD                     | RENFORGNISHENFORGENENT | TB      | TACKBOARD               |
| AF              | ABOVE FINSH FLOOR     | DIA             | DIAMETER              | PHG   | FIRE HOSE CABNET         | ĹLΥ               | LONG LEG YERTICAL      | RD                      | ROOF DRAN              | 16      | TOP OF CONCRETE         |
| ÃΤ              | ALMAH                 | DFF             | DEFVER                | FHM5  | BLAT HEAD PACHINE SCREEN |                   |                        | REF                     | ROTERONCE              | TEMP    | TEMPERATURE             |
| ÃĨτ             | ALTERNATE             | D21             | DIMENSION             | F++5  | FLAT HEAD HOOD SCREH     | HANT              | MAINTENANCE            | REFR                    | RETRIGERATOR.          |         |                         |
| APPROX          | APPROXIMATE           | DL              | DEAD LOAD             | FIN   | FINSH                    | PAIL              | HATERIAL               | REN                     | 722 100 20 11011       | 15      | TOP OF STEEL            |
| ARCH            | ARCHITECTURAL         | DH              | DOWN                  | FL.   | FLOOR                    | MAX               | MAXIM                  | REG                     | REGURED                | TH<     | THICK/THICKNESS         |
| ASPH            | ASPIALT               | CR.             | D008                  | ii b  | FOUNDATION               | MECH              | HECHANICAL             | RH.                     | ROOM                   | TYP.    | TYPICAL                 |
| ASSY            | ASSISTELY             | <b>75</b>       | DOHN SPOUT            | PPI-D | FROST PROOF HOSE BEB     | H <del>27</del> 8 | YEMBRAKE               | RØ.                     | ROUGH OPENING          |         |                         |
|                 | AUTOMATIC             | DTL.            | DETAIL                | FLSS  | FLASHNG                  | HEZZ              | HEZZÁNÜYÉ              |                         | 10.00101000            | UNFON   | INFINSHED               |
| AUTO            | AVERAGE               | DH              | DSHASIER              | FT    | FOOT/FEET                | MFR               | PANIFACTURER.          | _                       |                        | UR.     | URANAL                  |
| AYG             | AVERAGE               | -,.             |                       | Fis   | FOOTING                  | 178               | инин                   | 5                       | SOUTH                  | ~       | -                       |
|                 |                       |                 |                       | LID   | roome                    | HSC               | MSCELLANEOUS           | 56                      | SOLID CORE             |         |                         |
| BAL             | BOTTON OF             | E               | EAST                  | 64    | 646 <del>5</del>         | 110               | HASONRY OPENING        | SCHED                   | SCHERULE               | ¥       | VENT, VOLT              |
|                 | BALANCE               | ËA              | EACH                  | 6ALY  | SALVANITED               | MSNRY             | MASCHRY                | SECT                    | SECTION                | YCT     | YAYYL COMPOSITION TILLS |
| BO              | BOARD                 |                 | EXPANSION BOLT        | 6L    | 6LASS                    | HT6               | HOUNTING               | SHT                     | SHEET                  | YEVT    | VENTLATION              |
| BIT             | BITAROUS              | 티               | EXPANSION JOINT       | GR.   | 66ADE                    | MIL               | HETAL                  | 54                      | SHOWER                 | YXIASXT | YERTICAL                |
| erne            | BULDING               | EL/ELEY         | ELEVATION             | GR BM | GRADE BEAH               | HUL               | MULION                 | 5H                      | SMLAR                  |         |                         |
| BLKS            | BLOCKNS               | ELECT           | BLECTRIC              |       | 67PSM HALL BOARD         |                   | 1-4                    | эл<br>5 <del>75</del> 6 | SPECIFICATION          | н       | HEST                    |
| ER-1            | BEAH                  | eki             | EXCLOSEE              | 6-B   |                          | ου                | NEN                    |                         |                        | Ĥ/      | нтн                     |
| BOT.            | БОПОН                 | EXTR            | ENTRAYCE              | eπ    | 6YP9LM                   | w.                | NORTH                  | 50                      | SCHARTE                | Ho      | HETHOUT                 |
| DSH11           | BASEMENT              | Ea              | EGIAL                 | HAT   | HEAD ANCHOR STUD         | NG.               | NOT IN CONTRACT        | 5 <i>F/</i> 50 PT       | SOLIARE FOOT           |         | HATER CLOSET            |
| BTH             | BETHEEN               | BORT .          | FOR SPHENT            | HĐ    | HOSE BISS                |                   | NUMBER                 | 55                      | SERVICE SAK            | HC      |                         |
|                 |                       | 5-6             | ELECTRIC HATER COOLER | HC    | HOLLOH CORE              | No.               | HOMNAL                 | 55                      | STANLESS STEEL         | ю       | носо                    |
| CAB.            | CABNET                | EXP             | EXPANSION.            | HOBO  | HARDBOARD                | NTS               | HOT-TO SCALE           | 51                      | STREET                 | HSL     | HRE 6LASS               |
| CAP             | CAPACITY              | Œ               | EXISTING              | HDR.  | HEADER                   | RIO.              | HOLLIO SCATE           | STA                     | STATION                | HH      | HIRE MESH               |
| CB              | CATCH BASN            | EXT             | EXTERIOR              | HOHD  | HARDHOOD                 | <i>0</i> 65       | 085CIRE                | STP                     | STANDARD               | HP      | HEATHERFROOF            |
| CE4             | . CE+ENT              | - "             |                       | HDYR  | HARDHARE                 |                   | ON CONTEX              | STL                     | 51777                  | HAF     | HELDED HERE FABRIC      |
| CER             | CERAYIC               |                 |                       | HH `  | HOLLON HETAL             | <i>0</i> 6        | OUTSIDE DIAMETER       |                         |                        | ,       | /                       |
| CPH             | CUBIC PEET PER MENTE  |                 |                       | HOROZ | HORIZONTAL               | αp                | OVER HEAD              | STOR.                   | STORAGE                | YD      | TARD                    |
| a               | CAST IRON             |                 |                       | HET   | HE/SHT                   | OH.               |                        | STR                     | STRUCTURAL/STRUCTURE   | 10      | 120                     |
| ω               | CONSTRUCTION JOINT    |                 |                       | HYAG  | HEATING, VENTLATING      | OPP               | OPPOSITE               | 9056                    | 9.9PEVED               |         |                         |
| αL.             | CENTERLINE            |                 |                       |       | I AIR CONDITIONAND       |                   |                        | SIV                     | STAN AND YARNSH        |         |                         |
| ÇL <del>S</del> | CELNG                 |                 |                       | HYD   | HYDRANT                  | PART              | PARTITION              |                         |                        |         |                         |
| صة              | CLOSET                |                 |                       |       | INDIA 411                | PERF              | PERFORATED             |                         |                        |         |                         |
| CLR             | CLEAR                 |                 |                       | D     | NSDE DIAMETER            | PLAH              | PLASTIC LAYENATE       | •                       |                        |         |                         |
| CHU             | CONCRETE HASKARY UNIT |                 |                       | ห     | NAME                     | PL 6L             | PLATE GLASS            |                         |                        |         |                         |
| caL             | COLUM                 |                 |                       | NeuL  | NEULATION                | PLHB              | FLUMBAS                |                         |                        |         |                         |
| CONC            | CONCRETE              |                 |                       | MT    | NIERICR                  | PLYND             | PLYHOOD                |                         | ,                      |         |                         |
| CONF            | CONFERENCE            |                 |                       | 1041  | ALI DECEMBER 1           | POL               | POLISEED               |                         |                        |         |                         |
| CON             | CONNECTION            |                 |                       | ж     | JONE                     | PR                | PAIR                   |                         |                        |         |                         |
| CONSTR          | CONSTRUCTION          |                 |                       | 31    | arai ,                   | FREFAB            | PROTABRICATED          |                         |                        |         |                         |
| CONT            | CONTINUOUS            |                 |                       | KIT   | KATCHEN                  | FRY               | POHER ROOF YEATHLATOR  |                         |                        |         |                         |
| CONTR           | CONTRACTOR            |                 | -                     | 7     | NICAER                   | PSF               | POUNDS PER SOLARE FOOT |                         |                        |         |                         |
| CT              | CERAMIC TILE          |                 |                       |       |                          | PSI               | POUROS PER SOUARE INCH |                         |                        |         |                         |
| C15K            | COMESSIK              |                 |                       | -     |                          | PART              | PARTITICAL             |                         |                        |         |                         |
|                 |                       |                 |                       |       |                          | OT.               | DANT                   |                         |                        |         |                         |



PARTIAL SITE PLAN

## DESIGN LOADS

ROOF LIVE LOAD:

### COMPLIANCE STATEMENT



DATE: MARCH 25, 2020

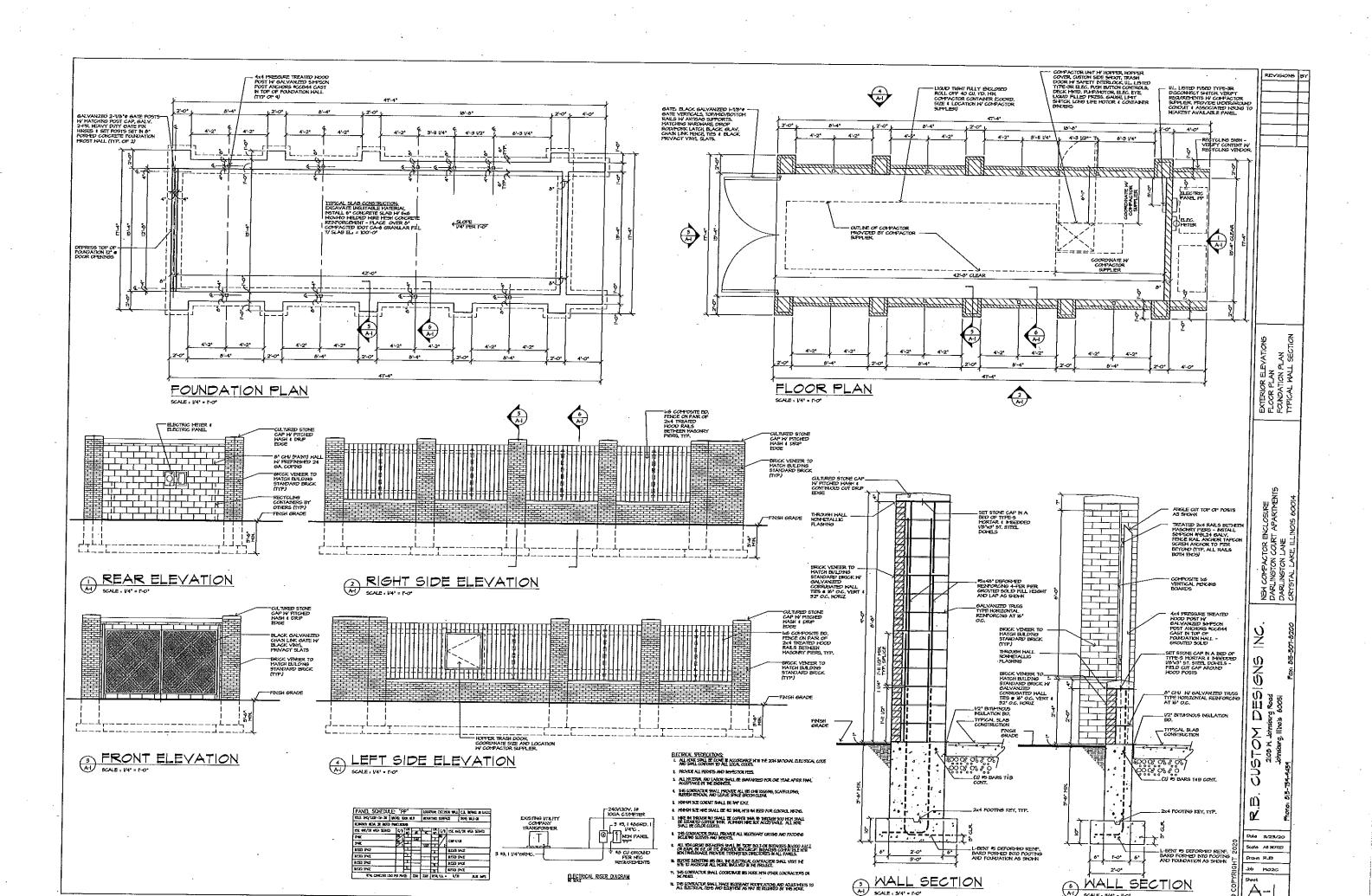
Drown FLB bb mosc EXPRES, NOVEMBER 30, 2020

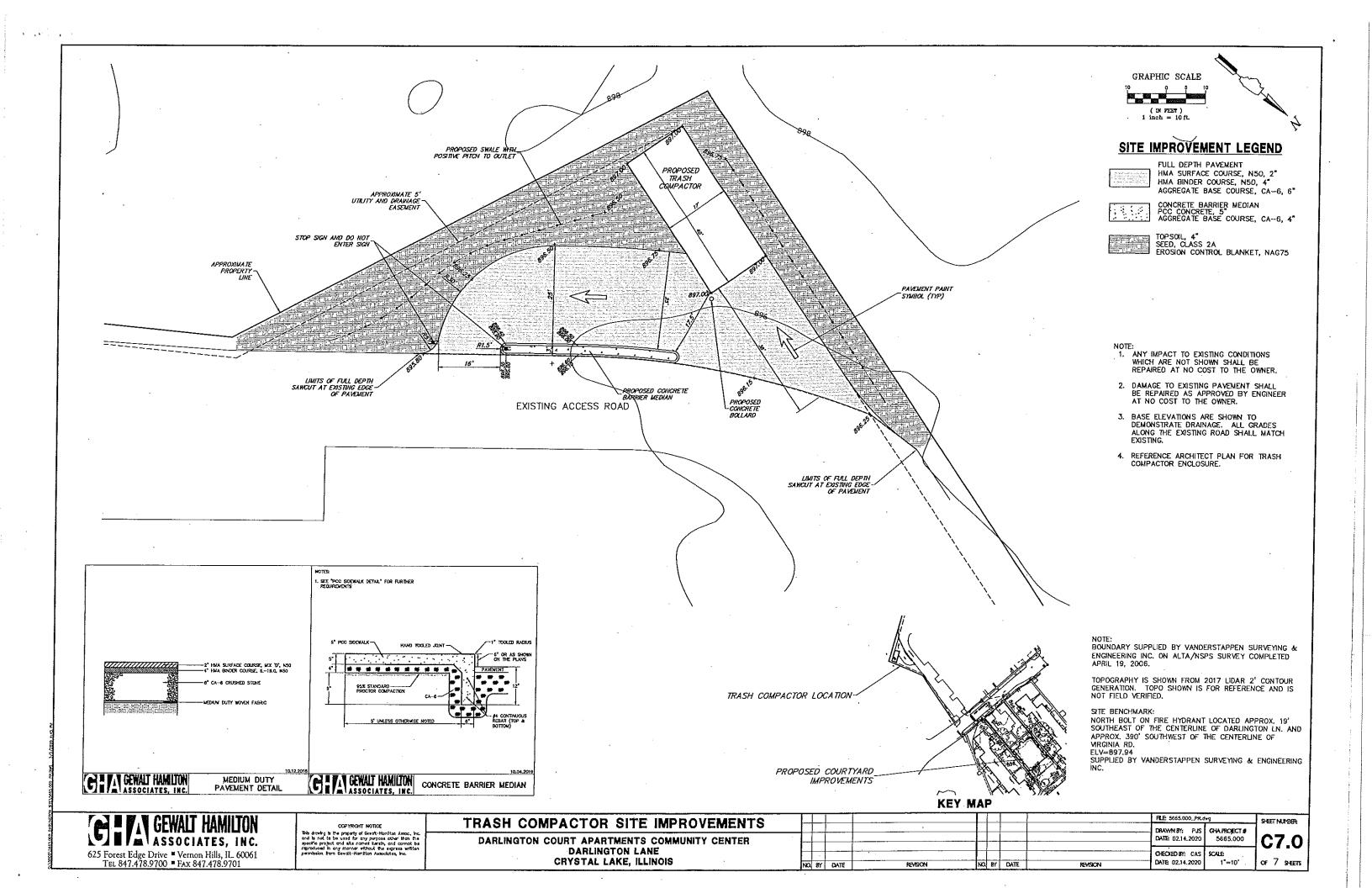
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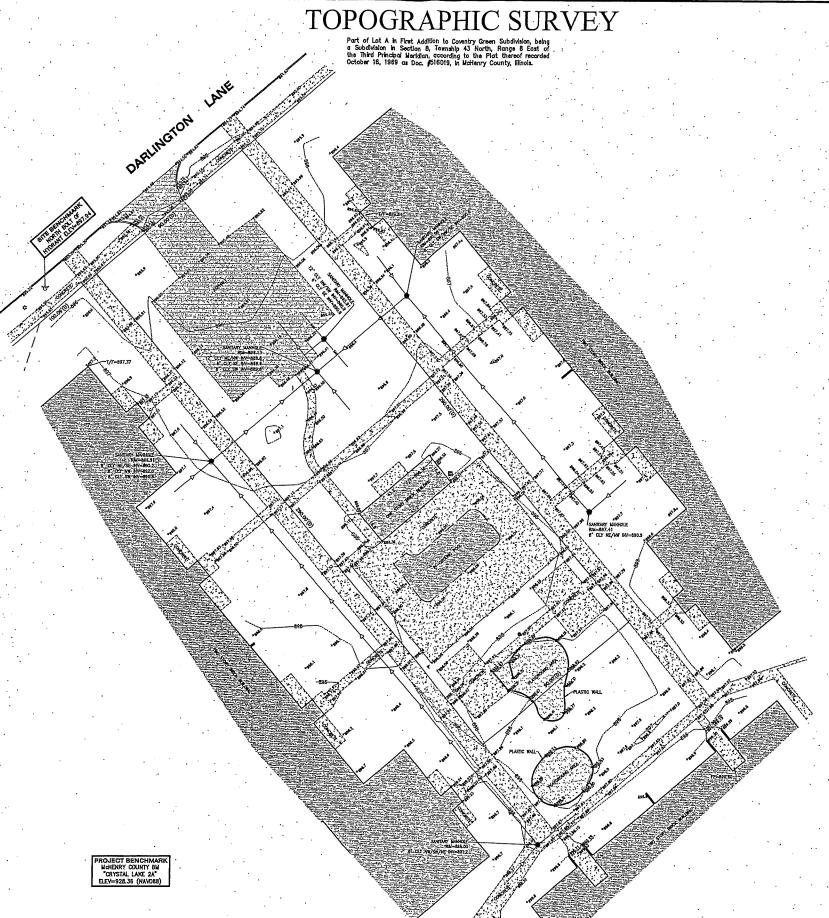
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Pote avasvad Scala AS NOTED













STATE OF HALINOIS )
COUNTY OF MCHENEY )

This professional service conforms to the current Illinois minimum standards for topographic surveys. This is not a Boundary Survey.

Dated at Woodstock, McHenry County, Illinois 1/23 A.D., 20 19

Vanderstappen Land Surveying, Inc. Design Firm No. 184-002792

By: Mily Sand Surveyor No. 2709

CLIENT; CUNAT, INC.

DRAWN HY: DAM CHECKED BY: WJV

SCALE: 1"=20" SEC., 08 T. 43 F. 08 K.

RASIN OF REARING: PER RECORD SUBDIVISION

P.LN.: 19-08-258-001

SANITARY M

JOB NO: 190017 LD, TPO
FIRLIWORK COMP.: 1/14/19 BE PG.
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AMES TRANSE COMPRESS TO BE F.