

Synopsis

The Watertown Housing Authority (WHA) is a public housing authority in New York State that gets funding from the U.S. Department of Housing and Urban Development. It was founded in 1948 and has been expanding and serving families in the City of Watertown ever since. It manages 7 properties with 642 housing units in different parts of the City of Watertown. It has apartments with 1, 2, 3 or 4 bedrooms, including some that are ADA-accessible. The properties are close to schools, bus routes and shopping areas, and each property has a community room that residents can use for special events and activities. 4 of the properties are buildings with multiple floors and 3 of the properties are townhouse style properties with multiple buildings.

Staff often must check security footage for different purposes, both for internal purposes and from external requests. Local law enforcement also request footage from time to time. The security cameras are important for both WHA and the public, because the properties cover a large area and are spread around the city. But the system is not very reliable, and sometimes the footage is not useful. The user interface is also very awkward and using the program takes substantial time.

Current System

The system is composed of mostly Hikvision cameras, which are currently banned under the Secure Equipment Act of 2021, and Axis cameras. Most of the outdoor cameras are of the multi-sensor, dome style, while interior cameras are of a varying mix. Cameras have been periodically upgraded and/or replaced over the years. Each property has an MDF (Main Distribution Frame) that includes a hardware NVR (Network Video Recorder) system running an Open-Source NVR application. Each MDF also has a WAN (Wide Area Network) and associated equipment allowing Internet access.

The 4 multi story buildings have a current advantage as all the cameras and associated equipment are directly connected to the building LAN.

The 3 multi-building sites utilize unlicensed 802.11 backhaul radios for connectivity between buildings and back to the central MDF on the property. Each individual apartment building has a residential style switch located in either the crawlspace, attic or in a weatherproof enclosure. These switches are not commercial, nor hardened and are not proper for the current environment. These properties exhibit the lowest reliability due to the connectivity between buildings utilizing unlicensed 802.11 radios.

Basis of Design

Our primary focus was to design an infrastructure that will provide reliable network communication between the cameras and the NVR's and make the system end-user friendly.

Additionally, ease of future expansion is designed as well. Future expansion capabilities are not just limited to camera connectivity and can include future expansion of data services such as tenant Wi-Fi services.

Aerial fiber will be used at the townhouse style properties to alleviate Wi-Fi backhaul issues. The fiber will allow direct data connectivity between all buildings and the properties MDF. Proposed fiber will have the capacity to expand for any data needs in the future. Each townhouse style building will receive a commercial grade, hardened switch enclosed in an exterior enclosure. Enclosure includes power, grounding, surge suppression and fiber splice tray/management in a compact and secure unit.

Cameras will be of commercial grade, and equal or better than existing in terms of resolution. Each property will have a dedicated NVR and will be sized to accommodate the current cameras and an additional 10 cameras while storing 30 days of motion. Each NVR will be configured for remote access, so they are easily accessible from the central, main leasing office.

A comprehensive warranty covering installation, and all hardware, hardware having a minimum of 5-year warranty to include 24/7 remote support. Complete end user training for system use and footage retrieval will also be included.

Scope

This project will be broken into 2 separate project scopes:

Cameras and associated recording hardware:

This scope will involve replacing all existing security cameras (The majority of these are outdoor, 4 sensor cameras) located at 7 different physical sites all owned and operated by the Watertown Housing Authority (WHA) as well as the associated hardware for local video storage. Scope includes removing existing hardware and replacing it with the specified replacement. Scope also includes initial setup and configuration as well as initial training.

Fiber interconnectivity:

The three (3) townhouse style properties, Maywood Terrace, East Hills, and Meadowbrook Apartments require interconnectivity via overhead aerial fiberoptic cabling.

Properties

Midtown Towers

142 Mechanic St., Watertown, NY

A 16-story apartment complex constructed in 1972 that contains 149 one-bedroom apartments. This facility is a controlled access facility with laundry facilities, a community center, and a parking lot. This facility also contains the Housing Authority's main offices and the Authority's MDF.



This facilities camera scope will include the removal and replacement of the existing cameras in their respective, current locations and NVR(s) with the following equipment:

- 2 – Axis S1264 Rack NVR – 32TB or approved equal
- 2 – Axis P3267-LVE Mic Fixed Dome Cameras or approved equal
- 37 – Axis P3267-LV Fixed Dome Cameras or approved equal
- 1 – Axis P3267-LVE Fixed Dome Camera or approved equal
- 2 – Axis M4317-PLVE 360 Panoramic Cameras or approved equal
- 12 – Axis P3737-PLE Panoramic 4 Channel Cameras or approved equal
- 10 – Axis T91A64 Corner Brackets or approved equal
- 10 – Axis T91D61 Wall Mounts or approved equal
- 12 – Axis T94N01D Pendant Kit or approved equal
- 2 – Axis T91B67 Pole Mounts or approved equal

Hilltop Towers

113 West Main St., Watertown, NY

A 10-story apartment complex constructed in 1966 that contains 90 apartments that are a mix of one bedroom and two-bedroom units. This facility is a controlled access facility with laundry facilities, a community center, and a parking lot.

This facilities camera scope will include the removal and replacement of the existing cameras in their respective, current locations and NVR(s) with the following equipment:

- 1 – Axis S1264 Rack NVR – 24TB or approved equal
- 22 – Axis P3267-LV Fixed Dome Cameras or approved equal
- 7 – Axis P3737-PLE Panoramic 4 Channel Cameras or approved equal
- 7 – Axis T91A64 Corner Brackets or approved equal
- 7 – Axis T91D61 Wall Mounts or approved equal
- 7 – Axis T94N01D Pendant Kit or approved equal

Skyline Apartments

454 Mill St., Watertown, NY

A 7-story apartment complex constructed in 1960 that contains 70 apartments that are a mix of one bedroom and two-bedroom units. This facility is a controlled access facility with laundry facilities, a community center, and a parking lot.

This facilities camera scope will include the removal and replacement of the existing cameras in their respective, current locations and NVR(s) with the following equipment:

- 1 – Axis S1264 Rack NVR – 24TB or approved equal
- 1 – Axis P1467-LE Bullet Camera or approved equal
- 22 – Axis P3267-LV Fixed Dome Cameras or approved equal
- 7 – Axis P3737-PLE Panoramic 4 Channel Cameras or approved equal
- 7 – Axis T91A64 Corner Brackets or approved equal
- 7 – Axis T91D61 Wall Mounts or approved equal



7 – Axis T94N01D Pendant Kit or approved equal

LeRay Street Apartments

847 LeRay St., Watertown, NY

A 5-story apartment complex constructed in 1982 that contains 65 one-bedroom apartments.

This facilities camera scope will include the removal and replacement of the existing cameras in their respective, current locations and NVR(s) with the following equipment:

- 1 – Axis S1264 Rack NVR – 24TB or approved equal
- 2 – Axis P1467-LE Bullet Camera or approved equal
- 7 – Axis P3267-LV Fixed Dome Cameras or approved equal
- 12 – Axis P3737-PL Panoramic 4 Channel Cameras or approved equal
- 12 – Axis T91A64 Corner Brackets or approved equal
- 12 – Axis T91D61 Wall Mounts or approved equal
- 12 – Axis T94N01D Pendant Kit or approved equal

Maywood Terrace

Maywood Terrace, Watertown, NY

An 11-building apartment complex constructed in 1954 that contains 64 apartments ranging from one bedroom to 4 bedrooms. The buildings are currently interconnected utilizing point to point 802.11 radios.

This facilities camera scope will include the removal and replacement of the existing cameras in their respective, current locations and NVR(s) with the following equipment:

- 2 – Axis S1232 Rack NVR – 32TB or approved equal
- 3 – Axis P3267-LV Fixed Dome Cameras or approved equal
- 3 – Axis P1467-LE Bullet Camera or approved equal
- 25 – Axis P3737-PL Panoramic 4 Channel Cameras or approved equal
- 25 – Axis T91A64 Corner Brackets or approved equal
- 25 – Axis T91D61 Wall Mounts or approved equal
- 25 – Axis T94N01D Pendant Kit or approved equal

Additionally, this facilities scope will include interconnecting each building utilizing an overhead aerial fiber cable secured to each building according to the enclosed site plan and riser diagram. An exterior enclosure is to be mounted on each building that includes a hardened, managed POW switch and fiber splice tray along with the appropriate SFP media modules.

- TBD – OCC MX006ASLA9KAG3 Outdoor aerial fiber w/ messenger, Single mode, 6 fiber, 900 um or approved equal
- 10 – Phoenix Contact SCX-4POE-2LX Smart Camera Box or approved equal
- 16 – Phoenix Contact FL SFP SX2 Media Module or approved equal



East Hills

Ohio Street, Watertown, NY

A 14-building complex constructed in 1952 that contains 100 apartments ranging from one bedroom to 4 bedrooms. Building 1 contains the WAN DMARC, MDF, a community room and offices for the property. The buildings are currently interconnected utilizing point to point 802.11 radios.

This facilities scope will include the removal and replacement of the existing cameras in their respective, current locations and NVR(s) with the following equipment:

- 2 – Axis S1264 Rack NVR – 24TB or approved equal
- 3 – Axis P3267-LV Fixed Dome Cameras or approved equal
- 34 – Axis P3737-PLE Panoramic 4 Channel Cameras or approved equal
- 34 – Axis T91A64 Corner Brackets or approved equal
- 34 – Axis T91D61 Wall Mounts or approved equal
- 34 – Axis T94N01D Pendant Kit or approved equal

Additionally, this facilities scope will include interconnecting each building utilizing an overhead aerial fiber cable secured to each building according to the enclosed site plan and riser diagram. An exterior enclosure is to be mounted on each building that includes a hardened, managed POW switch and fiber splice tray along with the appropriate SFP media modules.

- TBD – OCC MX006ASLA9KAG3 Outdoor aerial fiber w/ messenger, Single mode, 6 fiber, 900 um or approved equal
- 14 – Pheonix Contact SCX-4POE-2LX Smart Camera Box or approved equal
- 26 – Pheonix Contact FL SFP SX2 Media Module or approved equal

Meadowbrook Apartments

Walker/Burns Ave., Watertown, NY

A 20-building complex constructed in 1991 that contains 100 apartments ranging from two bedrooms to 4 bedrooms. The buildings are currently interconnected utilizing point to point 802.11

This facilities scope will include the removal and replacement of the existing cameras in their respective, current locations and NVR(s) with the following equipment:

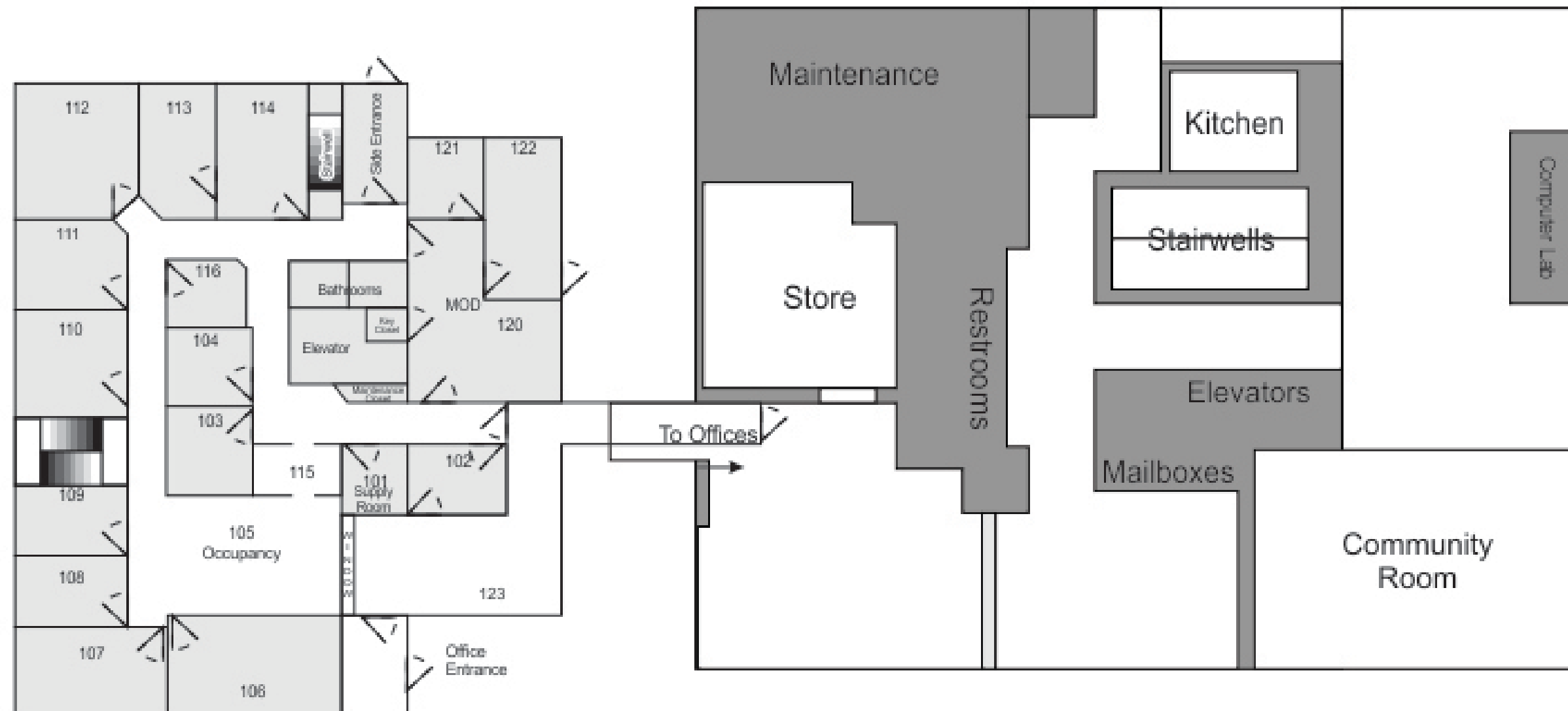
- 2 – Axis S1264 Rack NVR – 24TB or approved equal
- 3 – Axis P3267-LV Fixed Dome Cameras or approved equal
- 36 – Axis P3737-PLE Panoramic 4 Channel Cameras or approved equal
- 36 – Axis T91A64 Corner Brackets or approved equal
- 36 – Axis T91D61 Wall Mounts or approved equal
- 36 – Axis T94N01D Pendant Kit or approved equal



Additionally, this facilities scope will include interconnecting each building utilizing an overhead aerial fiber cable secured to each building according to the enclosed site plan and riser diagram. An exterior enclosure is to be mounted on each building that includes a hardened, managed POW switch and fiber splice tray along with the appropriate SFP media modules.

TBD – OCC MX006ASLA9KAG3 Outdoor aerial fiber w/ messenger, Single mode,
6 fiber, 900 um or approved equal
25 – Pheonix Contact SCX-4POE-2LX Smart Camera Box or approved equal
36 – Pheonix Contact FL SFP SX2 Media Module or approved equal



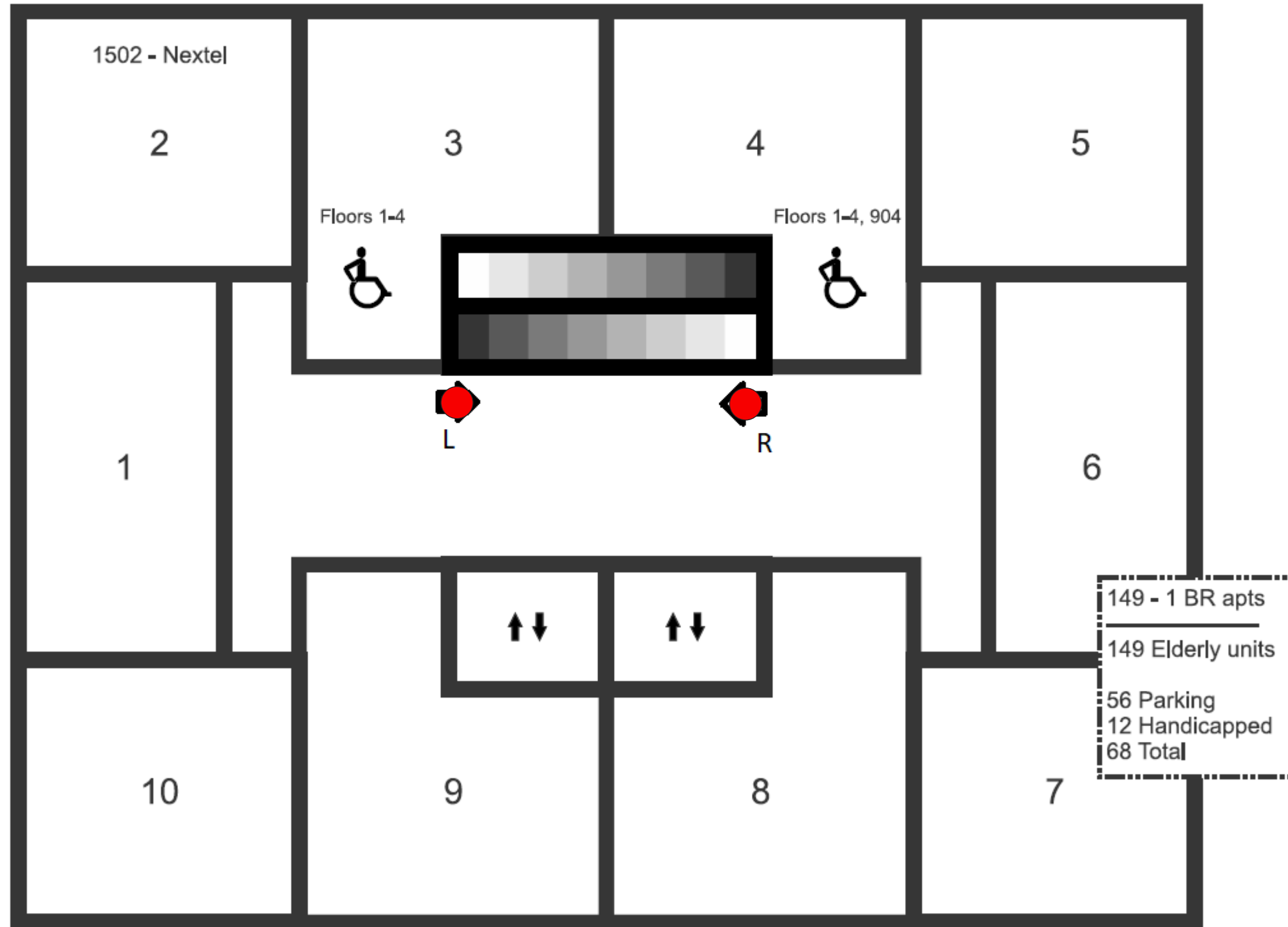


Watertown Housing Authority
Midtown Towers

Floor Plan, Ground Floor

Legend



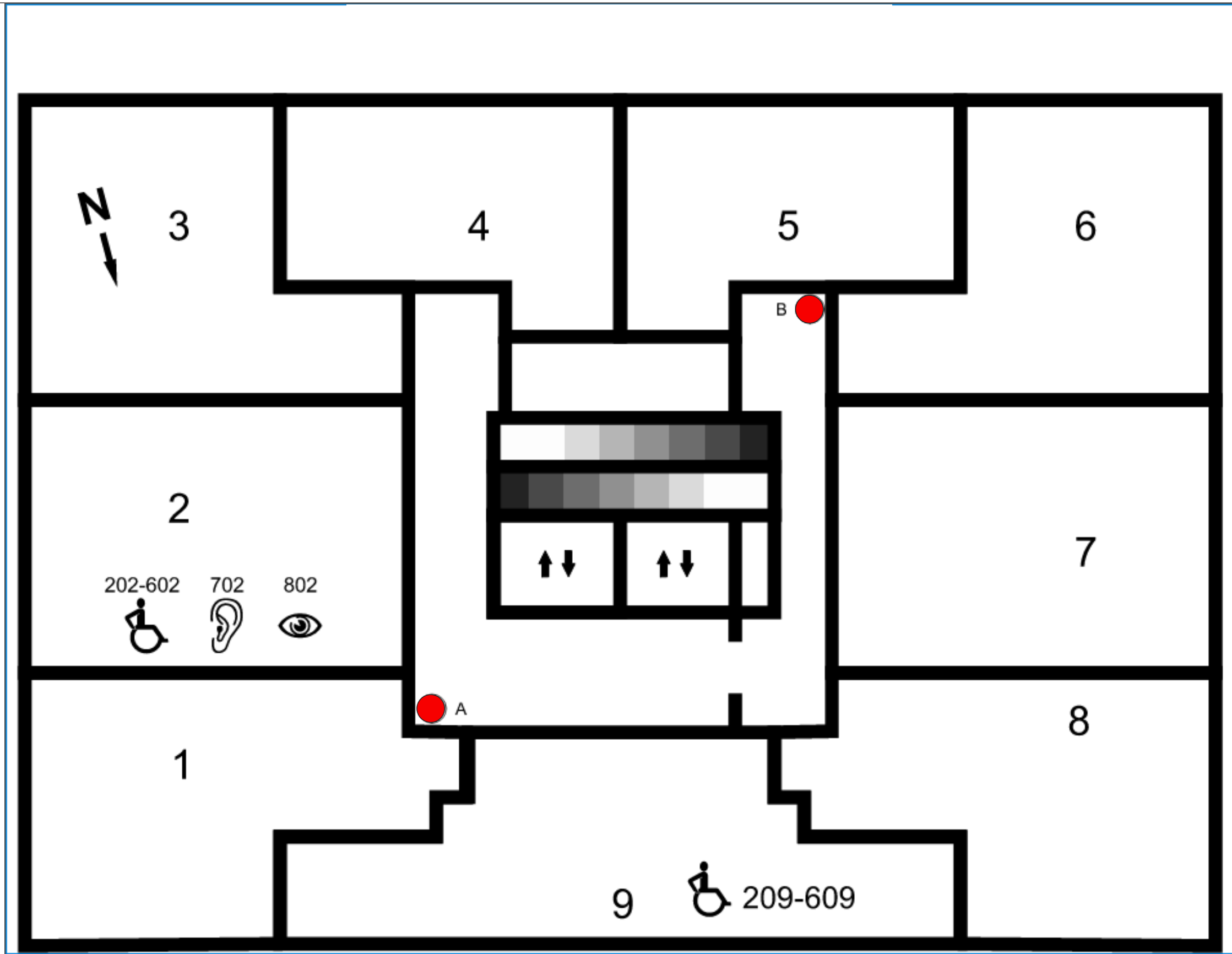


Watertown Housing Authority
 Midtown Towers

Floor Plan, Floors 2 - 16

Legend





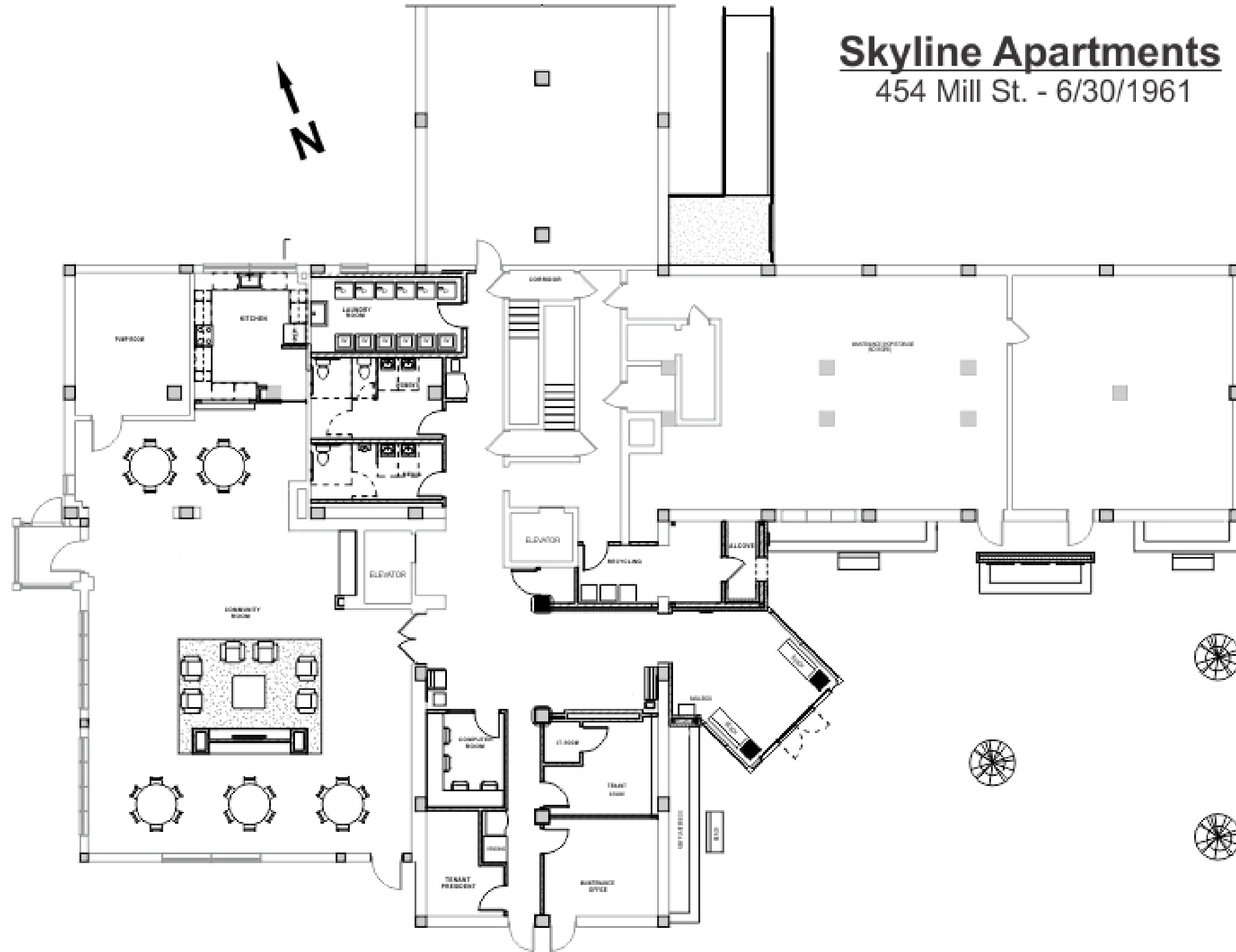
Watertown Housing Authority
Hilltop Towers
Floor Plan, Floors 2 - 10

Legend



Skyline Apartments

454 Mill St. - 6/30/1961

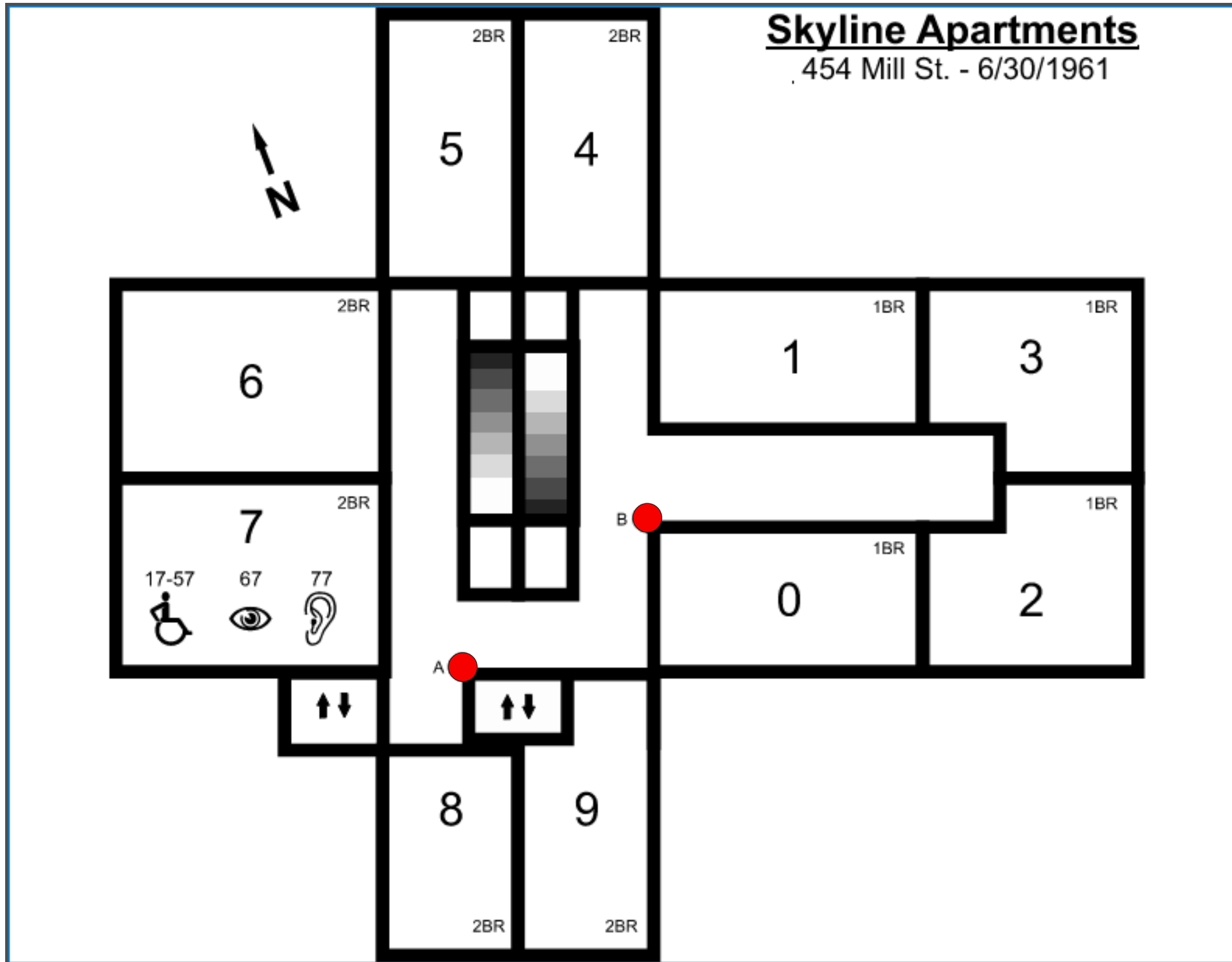


Watertown Housing Authority
Skyline Apartments

Floor Plan, Ground Floor

Legend





Watertown Housing Authority
Skyline Apartments

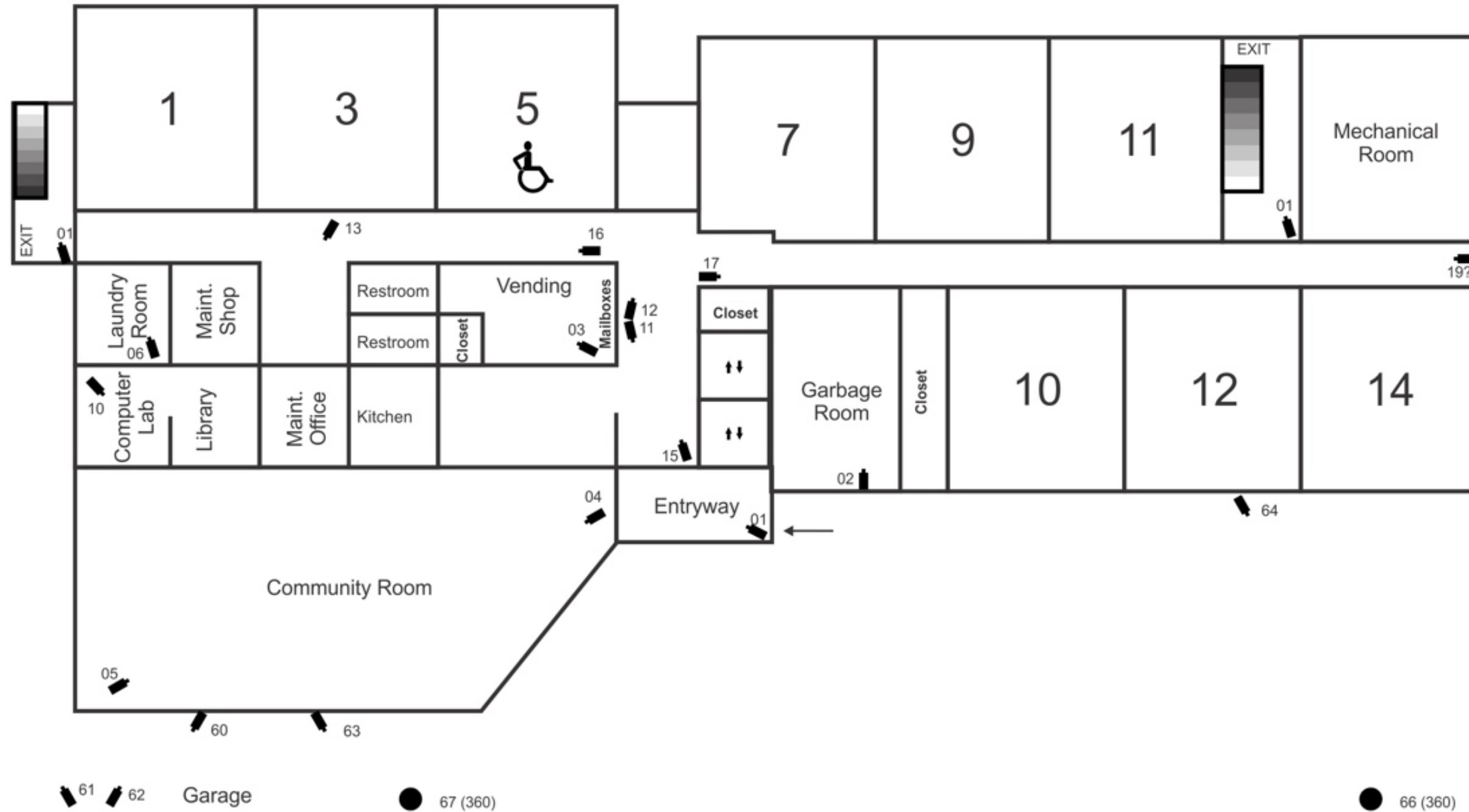
Floor Plan, Floors 2 - 7

Legend



LeRay St. Apartments

847 LeRay St. - 7/31/1982

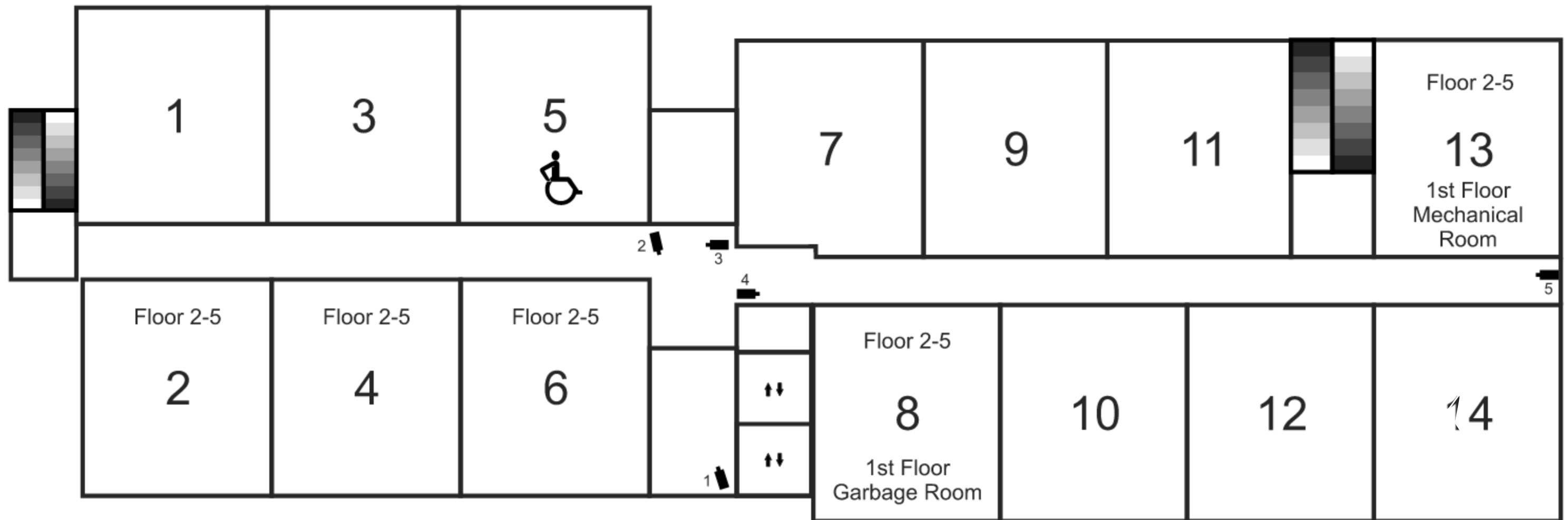


Watertown Housing Authority
Leray Street Apartments

Floor Plan, Ground Floor

Legend





- 65 - 1 BR apts
- 65 Elderly units
- 31 Parking
- 9 Handicapped
- 40 Total

Watertown Housing Authority
Leray Street Apartments

Floor Plan, Floors 2 - 5

Legend





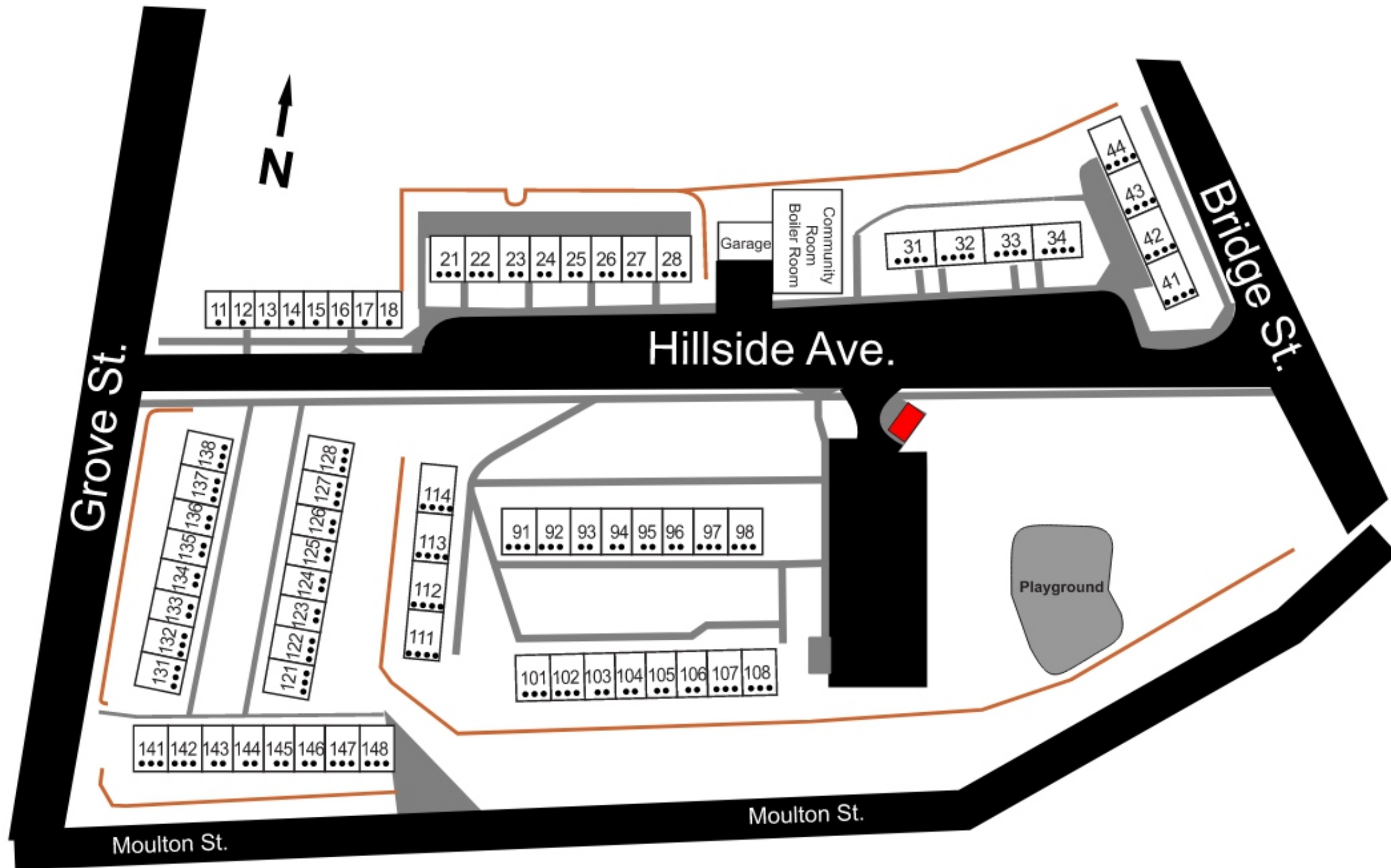
Watertown Housing Authority
Maywood Terrace
Project Overview Map

- Legend**
- Aerial Fiber
 - WAN / MDF
 - Outdoor DMARC/Switch



Maywood Terrace Apartments

239 Hillside Ave. - 10/31/1954



Watertown Housing Authority
Maywood Terrace

Camera Locations

Legend





Watertown Housing Authority
East Hills

Project Overview Map

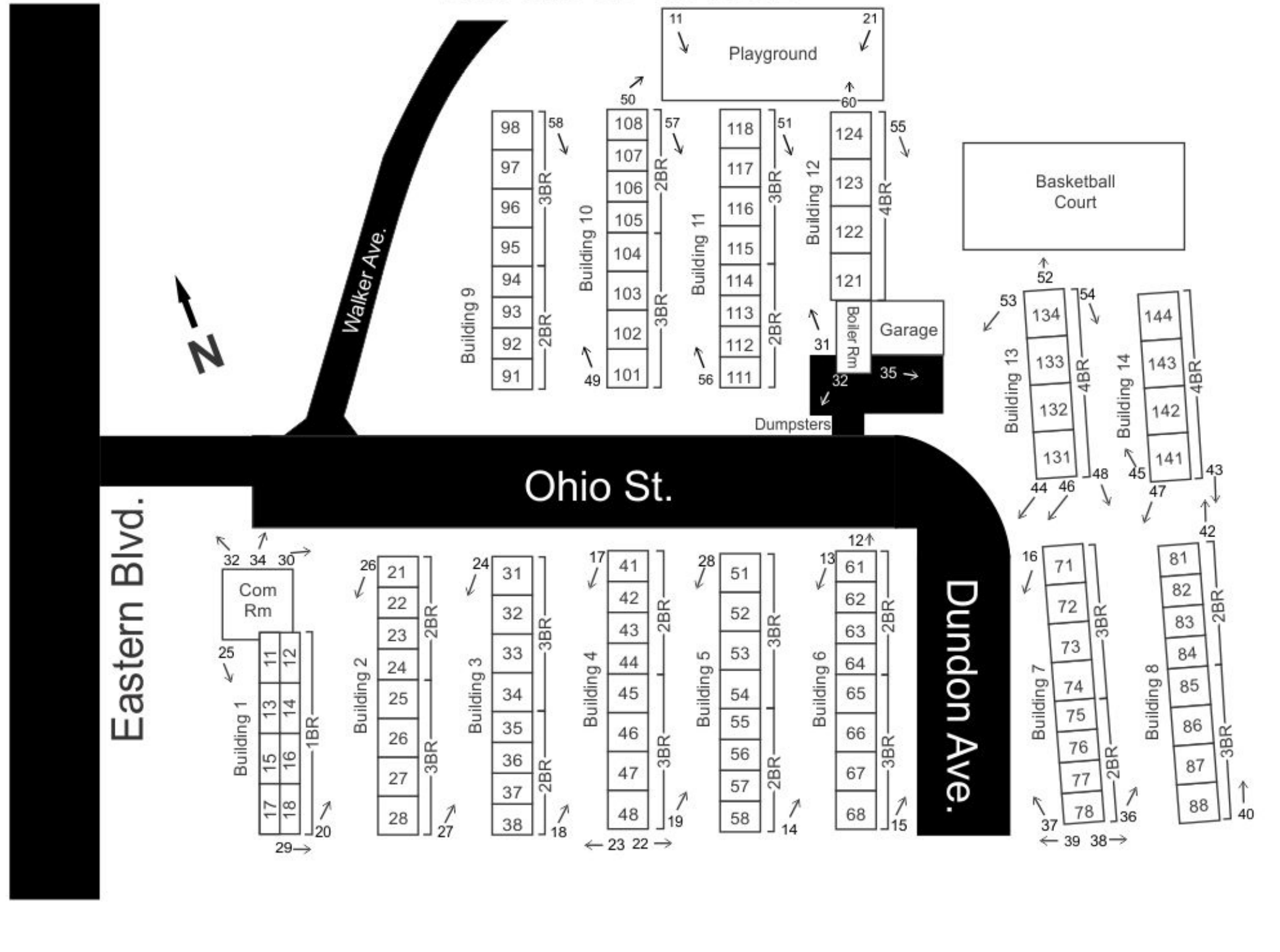
Legend

- Aerial Fiber
- WAN / MDF
- Outdoor DMARC/Switch



East Hills Apartments

1708 Ohio St. - 8/31/1952



Watertown Housing Authority
East Hills Apartments

Camera Locations

Legend





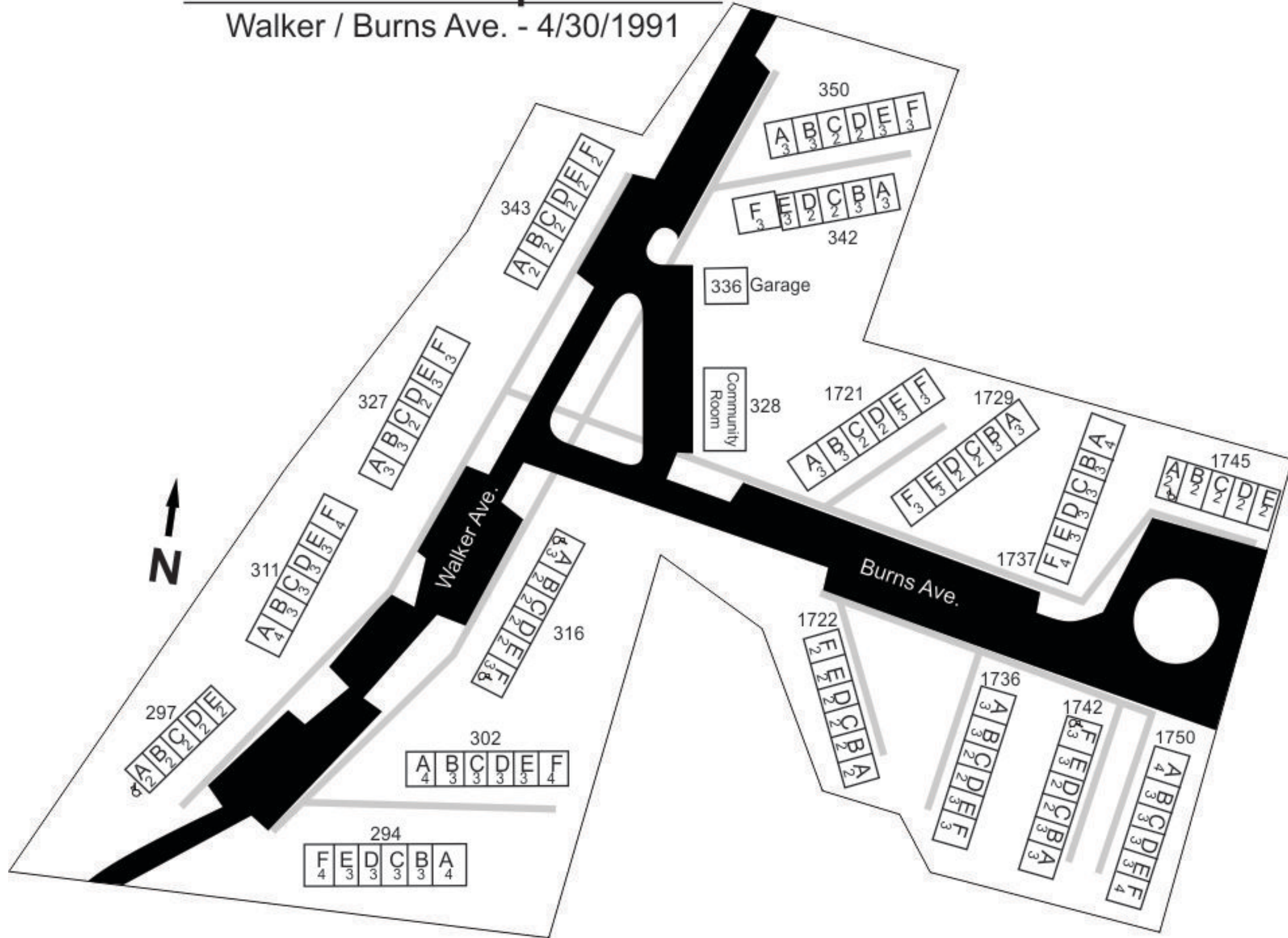
Watertown Housing Authority
 Meadowbrook Apartments
Project Overview Map

- Legend**
- Aerial Fiber
 - WAN / MDF
 - Outdoor DMARC/Switch



Meadowbrook Apartments

Walker / Burns Ave. - 4/30/1991



Watertown Housing Authority
Meadowbrook Apartments

Site Map

Legend



IT IS A VIOLATION OF NEW YORK STATE LAW, SECTION 7209, FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IF ALTERED, SUCH LICENSEE SHALL AFFIX HIS OR HER SEAL AND THE NOTIFICATION "ALTERED BY:" FOLLOWED BY HIS OR SIGNATURE, DATE AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

GENERAL NOTES

SYMBOLS AND ABBREVIATIONS

1. THIS SHEET CONTAINS SYMBOLS AND ABBREVIATIONS TYPICALLY SHOWN ON ELECTRICAL DRAWINGS AND SCHEMATICS. THIS CONTRACT DRAWING SET MAY NOT CONTAIN ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET.

PERMITS AND INSPECTIONS

1. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND ARRANGE FOR ALL REQUIRED INSPECTIONS IN ACCORDANCE WITH STATE AND LOCAL GOVERNING AUTHORITIES.
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2020 NEC, AND STATE AND LOCAL GOVERNING REGULATIONS.
3. PERFORM WORK AS REQUIRED BY CODES, REGULATIONS, LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS, AND OTHER AUTHORITIES WITH LAWFUL JURISDICTION. ALL MATERIAL AND EQUIPMENT SHALL BE UL, NEMA, ANSI, IEEE, ADA & CBM

SCOPE

1. UNLESS OTHERWISE INDICATED, PROVIDE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM INCLUDING ALL NECESSARY MATERIAL, LABOR, AND EQUIPMENT.
2. ALL DISCONNECTS REQUIRED BY CODE MAY NOT BE SHOWN. CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS AND OVERCURRENT PROTECTIVE DEVICES.
3. ALL EQUIPMENT AND MATERIAL SHALL BE LABELED AND LISTED, AND INSTALLED IN ACCORDANCE WITH THEIR LISTING.
4. PROVIDE ELECTRICAL CONNECTION FOR EVERY FIXTURE, OR ITEM OF EQUIPMENT REQUIRING SAME, WHICH IS SHOWN OR LISTED ON ANY CONTRACT DRAWING.
5. CONTRACTOR SHALL PROVIDE NECESSARY SUPPORT FRAMING, STIFFENERS, BRACING, AND HANGERS WHETHER SHOWN OR NOT TO ENSURE A COMPLETE AND DURABLE SYSTEM. SUPPORT FRAMING CONNECTIONS SHALL BE WELDED UNLESS SPECIFICALLY SHOWN OTHERWISE. ACTUAL SUPPORTS MAY VARY FROM THOSE SHOWN IN DETAILS TO ACCOMMODATE EXISTING FIELD CONDITIONS.
6. THE WORK INCLUDED IN THIS CONTRACT ENCOMPASSES THE DRAWINGS AND SPECIFICATIONS. WORK INCLUDED ON THE DRAWINGS ONLY, OR IN THE SPECIFICATIONS ONLY, SHALL BE INCORPORATED AS IF INCLUDED IN BOTH. ALL SYSTEMS SHOWN ARE INTENDED TO BE COMPLETE AND FULLY FUNCTIONING. THE CONTRACTOR SHALL PROVIDE SUCH COMPONENTS AS NECESSARY FOR A FULLY FUNCTIONING SYSTEM.
7. ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, RECTILINEAR TO BUILDING STRUCTURE.
8. CONTRACTOR SHALL FIELD VERIFY ALL SITE CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF ANY WORK OR SHOP FABRICATION. REQUIRED CHANGES TO WORK SHOWN ON CONSTRUCTION DRAWINGS SHALL BE APPROVED BY THE ENGINEER IN WRITING, OTHER TRADES, AND OWNER AS REQUIRED PRIOR TO ANY CONSTRUCTION.

COORDINATION OF WORK

1. THE CONTRACTOR SHALL COORDINATE AND VERIFY THAT WORKING AND DEDICATED EQUIPMENT SPACE REQUIREMENTS ARE MET PER NEC AND AHJ.
2. FIELD LOCATE ALL CORE DRILL LOCATIONS.
3. BEFORE CUTTING OR DRILLING INTO BUILDING ELEMENTS INSPECT AND LAYOUT WORK TO AVOID DAMAGING STRUCTURAL ELEMENTS AND BUILDING UTILITIES.
4. BEFORE SELECTING MATERIAL/EQUIPMENT AND PROCEEDING WITH WORK, INSPECT AREAS WHERE MATERIAL AND EQUIPMENT ARE TO BE INSTALLED TO INSURE SUITABILITY, AND CHECK NEEDED SPACE FOR PLACEMENT, CLEARANCES AND INTERCONNECTIONS.
5. POSSIBLE SYSTEM SHUT-DOWNS AND WORK AREAS CLOSURES MUST BE COORDINATED WITH THE OWNER.
6. VERIFY RECEPTACLE, SWITCH, & COVER PLATE COLORS WITH OWNER.
7. TURN OVER TO THE OWNER ALL MANUFACTURER'S WARRANTIES FOR EQUIPMENT AND MATERIALS PROVIDED.

DEFINITIONS

1. THE DEFINITION OF ELECTRICAL TERMS USED SHALL BE AS DEFINED IN THE EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AS REFERENCED IN THE BUILDING CODE OF NEW YORK STATE.
2. THE TERM "INDICATED" SHALL MEAN "AS SHOWN ON CONTRACT DOCUMENTS (SPECIFICATIONS, DRAWINGS, AND RELATED ATTACHMENTS)".
3. THE TERM "PROVIDE" SHALL MEAN "TO FURNISH, INSTALL, AND CONNECT COMPLETELY".
4. THE TERM "SIZE" SHALL MEAN ONE OR MORE OF THE FOLLOWING: "LENGTH, CURRENT AND VOLTAGE RATING, NUMBER OF POLES, NEMA SIZE, AND OTHER SIMILAR ELECTRICAL CHARACTERISTICS".

PLANS

1. ELECTRICAL PLANS, DETAILS, AND ONE LINE DIAGRAMS SHOW THE GENERAL LOCATION AND ARRANGEMENT OF THE ELECTRICAL SYSTEM. THEY ARE DIAGRAMMATIC AND DO NOT SHOW ALL CONDUIT BODIES, CONNECTORS, BENDS, FITTINGS, HANGERS, AND ADDITIONAL PULL BOXES WHICH THE CONTRACTOR MUST PROVIDE TO COMPLETE THE ELECTRICAL SYSTEM.
2. ELECTRICAL PLANS AND DETAILS DO NOT SHOW ALL INTERFERENCES AND CONDITIONS, VISIBLE AND/OR HIDDEN, THAT MAY EXIST. CONTRACTOR MUST INSPECT AND SURVEY THE SPACE BEFORE PERFORMING THE WORK.
3. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND REPRESENT A COMPLETED PROJECT. MINOR MODIFICATIONS OF WORK SHALL BE PROVIDED BY THE CONTRACTOR TO COMPLY WITH PROJECT REQUIREMENTS, LOCATIONS OF DEVICES AND EQUIPMENT SHOW A GENERAL ARRANGEMENT AND INTENDED FUNCTION. ALL COMPONENTS SHOWN ON THE RISER DIAGRAMS, BUT NOT ON THE PLAN OR VICE VERSA, SHALL BE INCLUDED AS IF SHOWN ON BOTH. EXACT LOCATION OF MECHANICAL EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL DRAWINGS. BEFORE INSTALLATION OF WORK, CHECK FOR SWINGS AND ALL REQUIRED CLEARANCES, TO AVOID INTERFERENCE WITH OTHER TRADES. COORDINATE WITH ALL CONTRACT DOCUMENTS, SHOP DRAWINGS AND EQUIPMENT DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED CONTRACT DRAWINGS.

METHODS

1. ALL EXTERIOR CONDUITS TO HAVE DUCT SEAL INSTALLED AT ALL ENDS, BOXES, WEATHERHEADS, PENETRATIONS TO INTERIOR SPACES, ETC.
2. DUCT BANKS SHALL NOT BE ROUTED DIRECTLY ABOVE OR BELOW EXISTING/PROPOSED UTILITIES EXCEPT WHEN CROSSING. WHERE CROSSING EXISTING OR PROPOSED UTILITIES DUCT BANKS SHALL CROSS AT 90 DEGREE ANGLES.
3. ALL CONDUIT SYSTEMS EXPOSED TO TEMPERATURE DIFFERENTIALS, IN POTENTIAL CONDENSING ATMOSPHERES, EXTERIOR INSTALLED, OR INSTALLED UNDERGROUND SHALL HAVE PROVISIONS FOR DRAINING WATER OUT OF CONDUIT SYSTEMS.
4. WHERE WIRE SIZE IS NOT NOTED ON DRAWINGS, CONTRACTOR SHALL SIZE ACCORDING TO THE NEC AND SHALL ADHERE TO THE FOLLOWING CRITERIA:
- EQUIPMENT CIRCUITS AND FEEDERS LESS THAN OR EQUAL TO 100A SHALL BE SIZED USING THE 60°C COPPER AMPACITY COLUMN (NEC 7310.16).
- EQUIPMENT CIRCUITS AND FEEDERS GREATER THAN 100A SHALL BE SIZED USING THE 75°C COPPER AMPACITY COLUMN (NEC 7310.16).
- MINIMUM WIRE SIZE SHALL BE #12 THHN/THWN.
- ALUMINUM SHALL NOT BE USED. CONDUCTORS SHALL BE SOLID UP THROUGH #10.

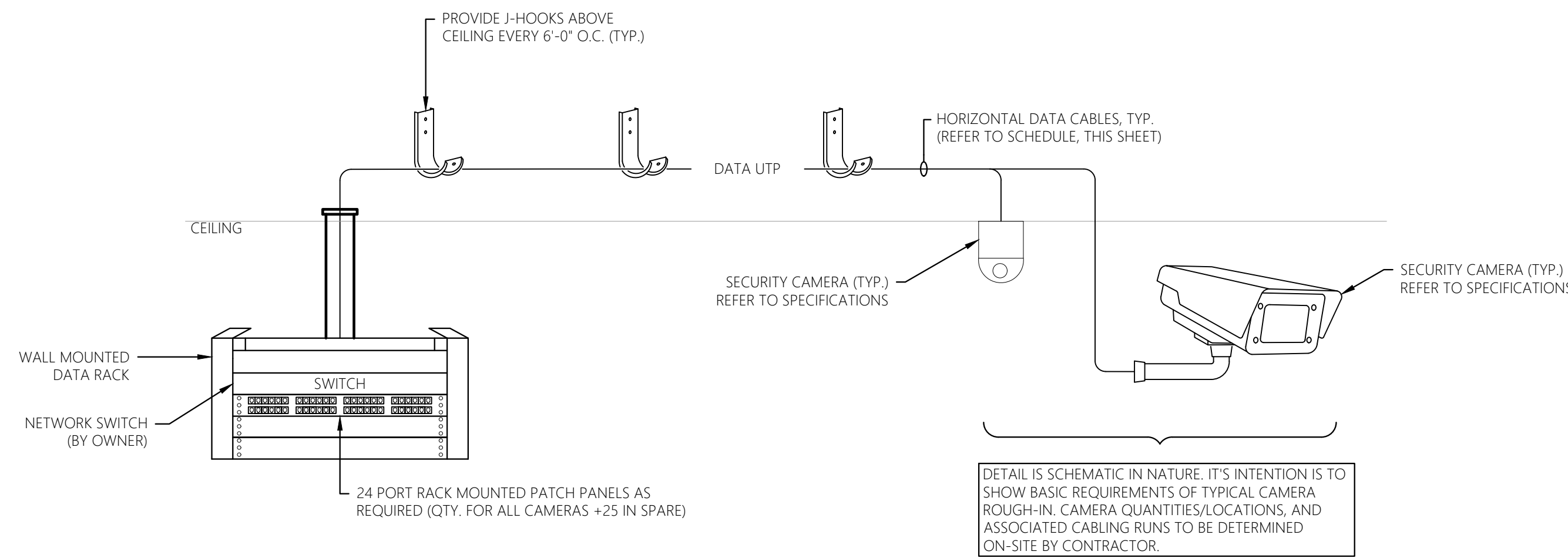
GENERAL ABBREVIATIONS

Table with 4 columns: Abbreviation, Description, and other details. Includes entries for RMC (Rigid Metal Conduit), SP (Spare), TYP (Typical), UON/UNO (Unless Otherwise Noted), W (Wire), WP (Weather Proof Rated Device), etc.

HORIZONTAL UTP CABLING SCHEDULE

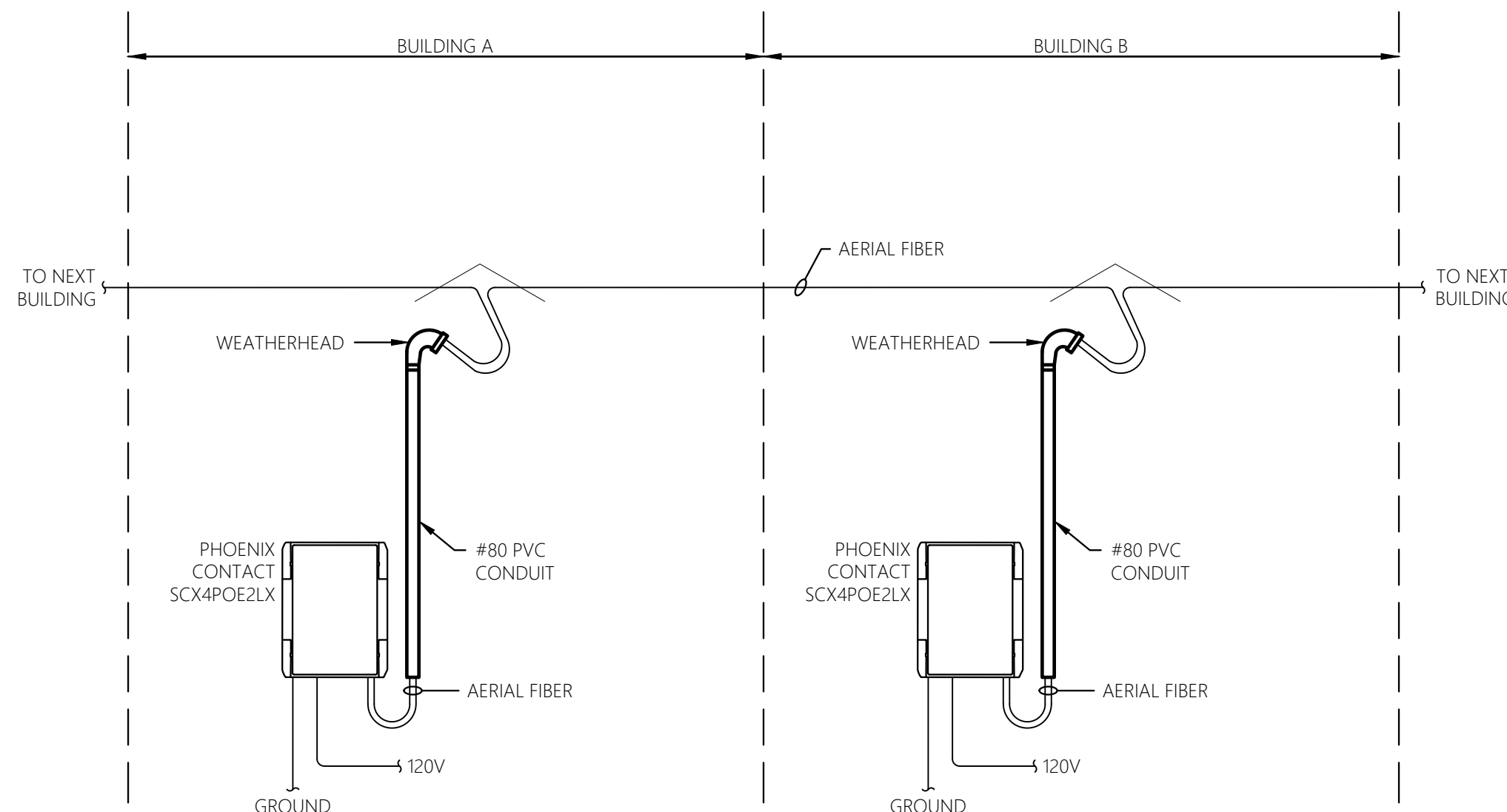
Table with columns: Cable Color (Blue, White, Purple, Red, Green, CAT 5e, CAT 6, CAT 6a, CAT 3 4-PR, RG-6), UTP Type, Insulation (Plenum, Riser, General), RJ45 Jack Color (Red, Black, White, Blue, Green), Config (T568A, T568B), Homerun Location, and Data Rack.

GENERAL SCHEDULE NOTES:
1.



1 TYPICAL CAMERA RISER DIAGRAM

SCALE: NTS



2 TYPICAL AERIAL FIBER RISER DIAGRAM

SCALE: NTS

Table with columns: Description and Date. Multiple rows for project details.

Table with columns: Description and Date. Multiple rows for project details.

JSE logo (Jade Stone Engineering) with text 'mechanical, electrical, plumbing'.

Project information: JSE PROJECT NO: 35-24, SCALE: AS SHOWN, DATE: 04-22-2024, DRAWN BY: CEM, CHECKED BY: SM.

ELECTRICAL LEGENDS & RISER DIAGRAMS, WATERTOWN HOUSING AUTHORITY CAMERA PROJECT, 830 WASHINGTON ST., WATERTOWN, NY 13601, JEFFERSON COUNTY, NEW YORK.

JSE SHEET NO. E600