

SECURITY INSTALLATION & HARDWARE

WHAT TO CONSIDER — Tip Sheet

- Minnesota requires that companies installing alarms hold a [Technology Systems Contractor](#) license. In addition, qualifying agents must also hold a [Power Limited Technician](#) license.
- Some municipalities require the registration of security systems.

Possible topics and questions to ask of vendors on equipment:

- Is the equipment UL Listed?
 - UL Certification demonstrate that the products have been tested to applicable standards.
- Is the recorder a Direct Video Recorder (DVR) or Network Video Recorder (NVR) or a hybrid of both?
 - NVRs receives preprocessed video files from IP cameras
 - DVRs preprocess the video sent from the cameras
- Main styles of Cameras
 - Vandal Dome Style
 - Vandal resistant, tough to break
 - Can't see what way camera is facing.
 - Poor Infrared
 - Bullet Style
 - Highly visual, sends a warning that they are being watched.
 - Large type of lens variations-advanced features. Strong night vision.
 - Turret Dome Style
 - Turret swivels, ceiling or wall mountable; Strong night vision.
 - These are not motorized unlike Pan-tilt-zoom (PTZ) cameras
- HD Video Capture: Megapixels
 - May help ensure more improved surveillance in terms of image clarity and video quality.
 - Can be limited by the sheer amount of data that needs to be processed and might be too slow to capture fast-moving details.
 - Increased Storage needs/costs.
 - Correct Positioning and Lens Angle is more important than Megapixel

Continued:

- What will be the Frame Rate and Shutter Speeds for each camera?
 - Frame Rate: Standard 11 to 25 FPS (Frames Per Second)
 - A default 1/30s will result in a blurry subject if moving. 1/1000 and 1/2000 second shutter speeds significantly reduces blur. 1/4000 will eliminate it.
- Depth of field and width of zone
 - [Security Camera Field of View \(FOV\) Tool](#)
- Night Vision or Infrared
 - Be aware Vandal Dome Style does a poor job with infrared.
- Exterior camera – Ingress Protection Rating
 - Exterior cameras should have at least a IP65 weatherproof rating
- Motion Activated
 - Camera comes equipped with a motion sensor. Good for conserving video storage space.
- Wired vs Wireless Communication
 - Wireless gives you more placement options; wired gives you clear and reliable signals
- Remote Monitoring/Mobile Access
 - Need an internet connection.
- Wide Dynamic Range
 - Refers to its ability to record in conditions that are bright and dark accurately.
- Storage
 - Local Storage Security Camera, Solid State Storage/Hard Drive, or Cloud Storage?
- Will there be a Battery Backup for your Security Camera System?
 - UPS (Uninterruptible Power Supply) is basically a surge protector that has a built-in backup battery for your security cameras and DVR/NVR.

SAMPLE VENDOR BIDS

Vendor bids should provide significant detail to help understand the specifications of what equipment is being installed.

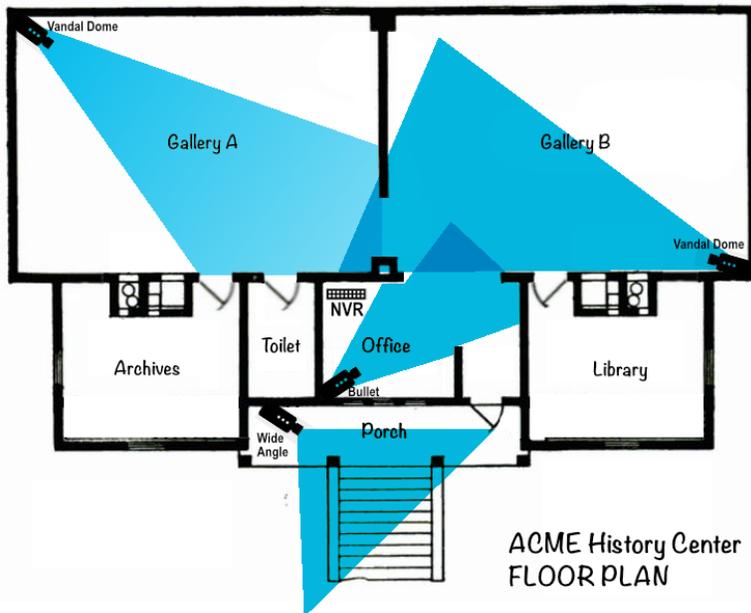
EXAMPLES:

| Date | | | | Ship Via | | F.O.B. | | |
|-----------------------|---------|------|--------------|--|---|--------|--|---|
| 01/09/18 | | | | | | | | D |
| Purchase Order Number | | | | Sales Person | | | | |
| | | | | | | | | |
| Quantity | | | Item Number | Description | | | | |
| Required | Shipped | B.O. | | | U | | | |
| 3 | | | 813908024371 | HIKVISION DS-2CE16D5T-AIR3ZH 2MP TURBO HD BULLET CAMERA IP66, 2.8-12MM LENS, 40M IR | | | | |
| 17 | | | 813908020441 | HIKVISION DS-2CE56D1T-VPIR 2MP TURBO HD VANDAL DOME CAM IP66, 20M IR, HX-OD56D1T2 | | | | |
| 1 | | | 813908020281 | HIKVISION DS-7332HGHI-SH 32 CH TURBO HD DVR W/HDMI AND VGA OUT UP TO 1920X1080 | | | | |
| 1.000 | | | LABOR-HOME | LABOR - HOME AIM/FOCUS CAMERAS SETUP DVR NETWORK AND PHONES | | | | |
| 2 | | | 086429284696 | SPYCLOPS SPY-DB18W20A POWER DISTRIBUTION BOX FOR CAMERAS 18-WAY 20 AMP CUSTOMER TO PROVIDE STATIC IP FOR REMOTE VIEW UNIQUE: MOUNT AND WIRE CAMERAS LABOR AND MATERIALS | | | | |

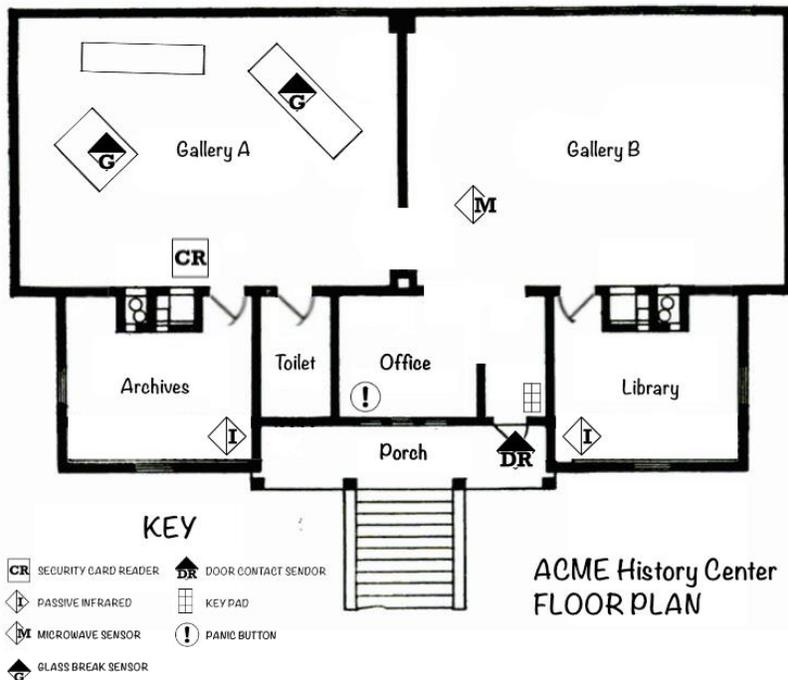
| Qt | Item | Description |
|-----|------------------------|---|
| 1 | NAP K120 Kit | 1632 kit with K4 keypad, battery, phone kit, transformer and Siren (keypad for back door) |
| 1 | CONTACT OHD O... | OVERHEAD DOOR CONTACT WITH 24" LEADS |
| 2 | Contact Surface Mt.... | Surface Mt. 1085T-M contact Brown |
| 2 | NAP C-100STE | NAP C-100STE Duel Tec 30x35 Motion Detector |
| 350 | Wire 22/4 | 4 conductor Wire (non Plenum) |
| 1 | NAP GEM-K4RF K... | NAP GEM-K4RF Keypad for K120 Kits, Wireless Receiver Built in. (for front door) |
| 2 | NAP GEM-WPPAN... | Wireless Pendant Transmitter, Waterproof single button |
| | Labor | Labor to install equipment listed above |

SAMPLE FLOOR PLANS

Floor plans for cameras should show camera placement, angle, width of zone and ideally the depth of field. It should also show where the recording device (DVR/NVR) is located.



Floor plans for security systems should show placement of components. A key should be provided.



For advice on bidding and RFPs see document [TIPS & COMMON PRACTICES DURING THE BIDDING/RFP PROCESS](#)