

LOW VOLTAGE SYSTEM LEGEND (EXCLUDING FIRE ALARM SYSTEM)

CABLING REQUIREMENTS				ROUGH-IN REQUIREMENTS								
SYMBOL	DESCRIPTION	# OF CAT 6 CABLES/JACKS	# OF RG-6 COAX AND OUTLET	OTHER	NOTES	PROVIDE 1-GANG BACKBOX	PROVIDE 2-GANG BACKBOX	PROVIDE 1-GANG PLASTER RING	PROVIDE 2-GANG PLASTER RING	PROVIDE (Qty/x) CONDUIT	PROVIDE AS SHOWN ON PLANS	NOTES
FA SEC	FIRE ALARM/SECURITY PHONE CONNECTION	(1)	---		PROVIDE ONE CAT6 CABLE TO LOCATION.	✓		✓		(1)/1" C. FOR COMM. CABLES.		HOMERUN 1" CONDUIT FROM OUTLET TO MAIN TELEPHONE SERVICE ENTRANCE. IN FIRE ALARM EQUIPMENT ROOM, RUN CONDUIT TO FINAL LOCATION AS DIRECTED BY EQUIPMENT INSTALLER.
DDC	DDC CONTROL CONNECTION	(1)	---			✓		✓		(1)/1" C. FOR COMM. CABLES.		ROUTE CONDUIT TO NEAREST CABLE TRAY.
EX W	WALL-MOUNTED TELEPHONE OUTLET. "EX" SIGNIFIES EXTERIOR PHONE SEE DETAIL.	(1)	---			✓		✓		(1)/1" C. FOR COMM. CABLES.		ROUTE CONDUIT TO NEAREST CABLE TRAY.
Dx	WALL MOUNTED COMMUNICATIONS OUTLET (CO), TYPE 'Dx'. SEE DETAILS.	AS INDICATED	---				✓	✓		(1)/1" C. FOR COMM. CABLES.		ROUTE CONDUIT TO NEAREST CABLE TRAY. COORDINATE EXACT MOUNTING HEIGHT AND ELEVATION WITH ARCHITECTURAL ELEVATIONS AND PLANS.
DxTV	WALL MOUNTED COMMUNICATIONS OUTLET (CO), TYPE 'DxTV'. SEE DETAILS.	AS INDICATED	(1)				✓	✓		(1)/1" C. FOR COMM. CABLES.		ROUTE CONDUIT TO NEAREST CABLE TRAY. COORDINATE EXACT MOUNTING HEIGHT AND ELEVATION WITH ARCHITECTURAL ELEVATIONS AND PLANS.
Dx FB	COMBINATION POWER/COMMUNICATIONS FLOORBOX WITH TYPE 'Dx' OUTLET WITHIN FLOOR BOX.	AS INDICATED	---							(1)/1" C. FOR COMM. CABLES.	✓	SEE FLOOR BOX DETAILS FOR BOX AND CONDUIT REQUIREMENTS.
*	INDICATES OUTLET TO BE INSTALLED IN MODULAR FURNITURE RACEWAY. COORDINATE WITH FURNITURE MANUFACTURER	---	---		COORDINATE WITH MODULAR FURNITURE VENDOR FOR FINAL TERMINATION OF CABLING. SPIRAL WRAP CABLING OUTSIDE WALL.		✓		✓			PROVIDE 1" CONDUIT FOR EVERY (4) CAT 6 CABLES IN WALL TO ACCESSIBLE CEILING, PROVIDE 2 GANG BOX WITH 2" GROMMET OPENING FOR FURNITURE FEED CABLING FOR EVERY 1" CONDUIT.
WAP	WIRELESS ACCESS POINT W/ DATA OUTLET, SEE NOTES.	(2)	---		DATA CABLE CONNECTION FOR FGFI WIRELESS ACCESS POINT.		✓	✓		(1)/1" C. FOR COMM. CABLES.		ROUTE CONDUIT TO NEAREST CABLE TRAY. COORDINATE EXACT MOUNTING HEIGHT AND ELEVATION WITH ARCHITECTURAL ELEVATIONS AND PLANS.
TV	TELEVISION OUTLET, TYPE 'TV'. SEE DETAILS.	(1)	(1)				✓	✓		(1)/1" C. FOR COMM. CABLES.		MATCH HEIGHT OF POWER OUTLET SERVING TV. MOUNT @ 96" A.F.F. UNLESS OTHERWISE NOTED. ROUTE CABLING TO NEAREST CABLE TRAY OR ESS ROOM.
Sx	SPEAKER MOUNTED FLUSH IN CEILING TILE, 'X' DENOTES ZONE. SEE PAGING SYSTEM SINGLE LINE	---	---	✓	CUT CEILING TILE AND PROVIDE CEILING T-BAR SUPPORT FOR SPEAKER. SEE INTERCOM SINGLE LINE FOR CABLE REQUIREMENTS.					(1)/1" C.	✓	ROUTE FROM SPEAKER BACKBOX TO ESS ROOM
MIC	PAGING SYSTEM MICROPHONE, SEE P/A SYSTEM SINGLE LINE. ROUGH-IN ONLY. PAGING INTENDED TO BE USED BY TELEPHONE SET.	---	---	✓	SEE PAGING SYSTEM SINGLE LINE.		✓	✓		(1)/1" C.		MOUNT INTERCOM STATION BACKBOX AT 18" AFF WITH 1" CONDUIT TO TELECOMMUNICATIONS ROOM. PROVIDE A GROMMET COVER FOR BACKBOX.
Vx	PAGING SPEAKER VOLUME CONTROL. 'X' DENOTES WHAT ZONE THE SWITCH CONTROLS.	---	---	✓	HOMERUN SPEAKER CABLING TO SERVING TELECOM ROOM. VOLUME CONTROL CABLING FOR LOCAL ZONE VOLUME.		✓	✓		(1)/1" C.		MOUNT AT 48" AFF WITH 1" CONDUIT TO TELECOMMUNICATIONS ROOM.
NMS	NURSE CALL MASTER STATION. PROVIDES VOICE COMM. TO STAFF AND PATIENT STATIONS AND SIGNALS WHEN EM. PULL CORD IS ACTIVATED.	---	---	✓	SEE NURSE CALL SINGLE LINE FOR CABLE REQUIREMENTS.						✓	ROUTE CONDUIT TO NEAREST CABLE TRAY OR ESS ROOM. MOUNT AT 54" AFF. REFER TO TN605 FOR MOUNTING DETAILS
NMA	NURSE CALL/ VISUAL ANNUNCIATOR PANEL SIGNALS AUDIBLE TONE AND VISUAL LIGHT UPON ACTIVATION OF VISUAL NURSE CALL	---	---	✓	SEE NURSE CALL SINGLE LINE FOR CABLE REQUIREMENTS.						✓	ROUTE CONDUIT TO NEAREST CABLE TRAY OR ESS ROOM. MOUNT AT 54" AFF. REFER TO TN605 FOR MOUNTING DETAILS
NC	TOILET EMERGENCY PULL-CORD, 40" A.F.F., MOUNT AT 48" AFF ALL OTHER AREAS, EXAM ROOMS, ETC.	---	---	✓	SEE NURSE CALL SINGLE LINE FOR CABLE REQUIREMENTS.	✓				(1)/1" C.	✓	ROUTE CONDUIT TO NEAREST CABLE TRAY OR ESS ROOM
☀	NURSE CALL DOME LIGHT. ACTIVATES WHEN NURSE CALL OR EMERGENCY PULL CORD IS ACTIVATED. CEILING MOUNTED	---	---	✓	SEE NURSE CALL SINGLE LINE FOR CABLE REQUIREMENTS.	✓				(1)/1" C.	✓	PROVIDE WITH T-BAR SUPPORT IN CEILING
☀	NURSE CALL DOME LIGHT. ACTIVATES WHEN NURSE CALL OR EMERGENCY PULL CORD IS ACTIVATED. WALL MOUNTED	---	---	✓	SEE NURSE CALL SINGLE LINE FOR CABLE REQUIREMENTS.		✓	✓		(1)/1" C.	✓	MOUNT JUNCTION BOX AT 96" AFF ABOVE DOOR. ROUTE CONDUIT TO NEAREST CABLE TRAY OR ESS ROOM
AV	AUDIO VISUAL ROUGH-IN	---	---		SEE FLOOR PLANS FOR ROUGH-IN REQUIREMENTS					REFER TO DRAWINGS	✓	2-GANG BOX AT 18" AFF WITH BLANK FACEPLATE. 1-1/2" CONDUIT TO ABOVE CEILING AND ROUTED TO ACCESSIBLE CEILING OR AS NOTED ON DRAWINGS. USE SWEEPING ELBOWS, NO SHARP TURNS.
VIC	VIDEO TELECONFERENCING CAMERA ROUGH-IN	---	---		SEE FLOOR PLANS FOR ROUGH-IN REQUIREMENTS					REFER TO DRAWINGS	✓	SEE FLAT PANEL DISPLAY ROUGH-IN DETAIL. "VIC" ROUGH-IN WILL UTILIZE CONDUIT AND JUNCTION BOX INCORPORATED WITH FLAT PANEL DISPLAY ROUGH-IN.
HH	COMMUNICATIONS HANDHOLE. SEE SITE PLAN AND DETAILS.										✓	SEE SITE PLAN DETAILS FOR REQUIREMENTS.
	MAIN UNDERGROUND COMMUNICATIONS CONDUIT.										✓	SEE SITE PLAN DETAILS FOR REQUIREMENTS.
	ABOVE GROUND COMMUNICATIONS CONDUIT.										✓	SEE COMMUNICATIONS PLAN FOR REQUIREMENTS.
	CABLE TRAY LOCATED ABOVE CEILING				COMMUNICATIONS, SECURITY SYSTEM CABLING, AND OTHER LOW VOLTAGE UTILITIES SHALL BE NEATLY AND SEPARATELY BUNDLED IN CABLE TRAY						✓	SEE FLOORPLANS FOR ROUTING AND SIZE REQUIREMENTS. SEE CABLE TRAY NOTES FOR ADDITIONAL REQUIREMENTS. PROVIDE CHANNEL IN CABLE TRAY FOR NON DATA/VOICE CABLING.
	INTERCOMMUNICATION SYSTEM CALL STATION			✓	SEE VOICE SYSTEM SINGLE LINE		✓	✓		(1)/1" C.	✓	MOUNT INTERCOM STATION BACKBOX AT 48" AFF WITH 1" CONDUIT TO TELECOMMUNICATIONS ROOM.
FP	FLAT PANEL DISPLAY ROUGH-IN, SEE DETAILS FOR MONITOR REQUIREMENTS.	(1)	(1)	✓	SEE "FP" DETAIL FOR REQUIREMENTS							SEE "FP" DETAIL FOR REQUIREMENTS
J	JUNCTION BOX	---	---				✓	✓		(1)/1" C.	✓	JUNCTION BOX WITH 1" CONDUIT ROUTED TO ACCESSIBLE CEILING FOR SYSTEMS EQUIPMENT CABLING. SEE FLOOR PLAN FOR MOUNTING HEIGHT REQUIREMENTS.
PRJ	CEILING MOUNTED PROJECTOR LOCATION, PROJECTOR IS OFOI				PROJECTOR IS OFOI						✓	PROVIDE POWER RECEPTACLE FOR OFOI PROJECTOR, COORDINATE WITH GOVERNMENT BEFORE INSTALLATION.

COORDINATION NOTE + GENERAL SCOPE OF WORK

**COMMUNICATIONS STRUCTURED CABLING SYSTEM:**  
THE CABLING CONTRACTOR SHALL PROVIDE ALL CABLING, BACKBONE CABLING, TERMINATIONS, EXISTING, ETC AS REQUIRED FOR A COMPLETE AND OPERATION CABLING SYSTEM. THE ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL CONDUIT AND BACKBOXES ASSOCIATED WITH THE COMMUNICATIONS OUTLETS.

**PUBLIC ADDRESS SYSTEM:**  
THE CABLING CONTRACTOR SHALL BE RESPONSIBLE, INCLUDING THE PROCUREMENT OF SUB-CONTRACTORS, FOR THE INSTALLATION OF ALL SPEAKERS, CABLING, EQUIPMENT, PHONE SYSTEM TIE-IN AND ALL ASSOCIATED PROGRAMMING AS REQUIRED HEREIN AND FOR A COMPLETE AND OPERATIONAL SYSTEM. THE EC SHALL PROVIDE ALL REQUIRED BACKBOXES AND CONDUIT FOR THESE SYSTEMS.

**NURSE CALL SYSTEM:**  
THE CABLING CONTRACTOR SHALL BE RESPONSIBLE, INCLUDING THE PROCUREMENT OF SUB-CONTRACTORS, FOR THE INSTALLATION OF ALL CALL BOXES, ANNUNCIATORS, DOME LIGHTS, ETC AND ALL ASSOCIATED PROGRAMMING AS REQUIRED HEREIN AND FOR A COMPLETE AND OPERATIONAL SYSTEM. THE EC SHALL PROVIDE ALL REQUIRED BACKBOXES AND CONDUIT FOR THESE SYSTEMS.

**CAMERA SYSTEM, ACCESS CONTROL AND INTRUSION DETECTION DEVICE CONDUITS:**  
THE ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL CONDUIT AND BACKBOXES REQUIRED FOR INSTALLING ALL SECURITY DEVICES AND ROUTING THE CONDUIT TO THE REQUIRED DESTINATION. ALL SECURITY SYSTEMS SHALL BE GOVERNMENT FURNISHED AND INSTALLED. EC SHALL COORDINATE AS REQUIRED WITH GOVERNMENT CONTRACTOR.

**GROUNDING:**  
THE ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR INSTALLING THE GROUNDING BUSBAR AS SHOWN ON THE DRAWINGS AND CONNECTING IT TO THE BUILDING MAIN ELECTRICAL SERVICE GROUND. THE EC SHALL ALSO BE RESPONSIBLE FOR GROUNDING ALL BACKBONE CONDUIT AND CABLE TRAY. THE STRUCTURED CABLING CONTRACTOR (SCC) SHALL BE RESPONSIBLE FOR GROUNDING ALL RACKS, PROTECTOR BLOCKS, CABLE LADDER TRAY IN COMMUNICATION CLOSETS, ETC, INCLUDING CONDUIT FOR EACH GROUND CONDUCTOR.

**FIRESTOPPING:**  
THE ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR FIRESTOPPING SLEEVE ASSEMBLIES TO OBTAIN A UL RATING. THE STRUCTURED CABLING CONTRACTOR (SCC) SHALL BE RESPONSIBLE FOR FIRESTOPPING IN THE SLEEVES AFTER INSTALLATION OF CABLING IS COMPLETE.

**CONDUIT AND CABLE TRAY:**  
THE ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR ALL BACKBONE CONDUIT AND CABLING PATHWAYS. THIS IS TO INCLUDE ALL INTERIOR AND EXTERIOR CONDUIT, ALL WALL PENETRATIONS AND CONDUIT SLEEVES WHETHER SHOWN ON THE DRAWINGS OR AS REQUIRED TO PENETRATE FULL HEIGHT PARTITIONS AS SHOWN ON THE DRAWINGS. CONDUIT PATHWAYS SHALL INCLUDE ALL PULLBOXES, PULLTAPE, PULLSTRINGS, CONDUIT MARKINGS, ETC. ALL CONDUIT SHALL BE INSTALLED ACCORDING TO THE ABOVEGROUND AND UNDERGROUND CONDUIT NOTES AS SHOWN ON THE DRAWINGS. PROVIDE END BUSHINGS ON ALL CONDUIT. THE STRUCTURED CABLING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WIRE RACEWAYS, CABLE RUNWAY, AND/OR ANY OTHER REQUIREMENTS FOR ROUTING AND SECURING CABLE IN THE MAIN COMMUNICATIONS EQUIPMENT ROOM (MTR). THE CABLING CONTRACTOR SHALL PROVIDE ANY INNERDUCT IN BACKBONE CONDUITS AS REQUIRED IN THE SPECIFICATIONS AND DRAWINGS.

**BACKBOARDS:**  
THE STRUCTURED CABLING CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL BACKBOARDS AS SHOWN ON THE DRAWINGS AND AS REQUIRED TO PROVIDE A COMPLETE SYSTEM. THE ELECTRICAL CONTRACTOR (EC) SHALL BE RESPONSIBLE FOR ROUGH-IN OF ELECTRICAL CONDUIT PRIOR TO INSTALLATION OF BACKBOARDS. ALL POWER CONDUIT SHALL BE CONCEALED BEHIND ALL BACKBOARDS. BACKBONE CONDUIT SHALL BE EXPOSED AS SHOWN ON THE BACKBOARD ELEVATIONS.

**THIS LIST IS NOT COMPREHENSIVE. THE STRUCTURED CABLING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL REQUIREMENTS SHOWN ON THE COMMUNICATIONS DRAWINGS AND/OR REQUIRED TO PROVIDE COMPLETE SYSTEMS.**

FIRESTOPPING NOTE

THE CONTRACTOR SHALL FIRESTOP ALL PENETRATIONS OF ALL FLOORS AND ALL WALLS WHICH EXTEND TO THE UNDERSIDE OF THE FLOOR OR ROOF DECK ABOVE. FIRESTOPPING SHALL BE ACCOMPLISHED AFTER ALL CABLES ARE PULLED (ALL SYSTEMS) USING UL CLASSIFIED SYSTEMS WITH FIRE RATING EQUAL TO OR GREATER THAN THE FIRE RATING OF THE FLOOR OR WALL ASSEMBLY PENETRATED. FIRESTOP SYSTEMS SHALL BE 3M, NELSON OR ENGINEER APPROVED EQUAL. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. THE CONTRACTOR SHALL SUBMIT A MANUFACTURER'S STANDARD DETAIL FOR EACH TYPE OF FLOOR AND WALL PENETRATION REQUIRED FOR THIS PROJECT. ALL OTHER PENETRATIONS OR OPENINGS IN NON-FIRE RATED WALLS SHALL BE REPAIRED AND SEALED WITH MATERIALS TO MATCH THE EXISTING CONSTRUCTION.

CABLE TRAY GENERAL NOTES

- ANY CABLES INSTALLED IN CABLE TRAY SYSTEMS NOT SPECIFICALLY SHOWN ON THESE DRAWINGS SHALL BE APPROVED BY THE OWNER/ENGINEER PRIOR TO INSTALLATION.
- COMPONENTS AND INSTALLATION SHALL COMPLY WITH NFPA 70 "NATIONAL ELECTRICAL CODE".
- COORDINATE CABLE TRAY INSTALLATION WITH MECHANICAL EQUIPMENT, ELECTRICAL EQUIPMENT, DUCTWORK, CONDUITS, PIPING AND ALL OTHER TRADES PRIOR TO ORDERING AND INSTALLING.
- ALL CABLE TRAY COMPONENTS SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER.
- INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- REMOVE BURRS AND SHARP EDGES.
- MAKE CHANGES IN HEIGHT AND DIRECTION WITH STANDARD CABLE TRAY FITTINGS.
- FIRESTOP AT PENETRATIONS OF FIRE AND SMOKE BARRIERS.
- INSTALL TRAYS WITH AS MUCH AS POSSIBLE WORKING SPACE TOP AND BOTH SIDES FOR CABLE INSTALLATION.
- ELECTRICALLY GROUND CABLE TRAYS AND ENSURE CONTINUOUS ELECTRICAL CONDUCTIVITY OF CABLE TRAY SYSTEM. PROVIDE BONDING JUMPERS BETWEEN CABLE TRAY SECTIONS. PROVIDE A #4 AWG GROUNDING CONDUCTOR FOR EACH RUN OF CABLE TRAY - ATTACH TO TRAY WITH COMPRESSION GROUND LUG - RUN CONTINUOUS IN EMT CONDUIT AND BOND TO BUILDING MAIN ELECTRICAL SERVICE GROUND.
- SUBMIT CUT SHEETS OF ALL CABLE TRAY COMPONENTS TO ENGINEER PRIOR TO ORDERING MATERIALS.

SPECIFICATION/DRAWINGS CONFLICTION NOTE

THE PROJECT SPECIFICATIONS SHALL TAKE PRECEDENCE OVER ALL INFORMATION LISTED ON THE DRAWINGS. HOWEVER, IF CIRCUMSTANCES ARISE WHERE THE DRAWINGS AND SPECIFICATIONS CONFLICT, CONTRACTOR SHALL CONTACT ARCHITECT/ENGINEER FOR CLARIFICATION. IF CLARIFICATION HAS NOT BEEN RECEIVED BY BIDDING CONTRACTOR PRIOR TO REQUIRED SUBMISSION DATE, CONTRACTOR SHALL BID ON THE MORE STRINGENT REQUIREMENT WHETHER INDICATED IN DRAWINGS OR SPECIFICATIONS.



FINAL SUBMISSION

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