NC DEPARTMENT OF
HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
MANDY COHEN, MD, MPH • Secretary
MARK PAYNE • Director, Division of Health Service Regulation

VIA EMAIL ONLY

November 5, 2021

Elizabeth V. Kirkman
Elizabeth.kirkman@atriumhealth.org

Exempt from Review – Replacement Equipment

Record #:	**3722**
Date of Request:	October 25, 2021
Facility Name:	Atrium Health Cleveland
FID #:	953106
Business Name:	The Charlotte-Mecklenburg Hospital Authority
Business #:	1770
Project Description:	Replace existing MRI scanner
County:	Cleveland

Dear Ms. Kirkman:

The Healthcare Planning and Certificate of Need Section, Division of Health Service Regulation (Agency), determined that the above referenced project is exempt from certificate of need review in accordance with G.S. 131E-184(f). Therefore, you may proceed to acquire without a certificate of need the GE Signa Artist 1.5T MRI scanner to replace the GE Signa Excite III HD 1.5T, serial # R798, MRI scanner. This determination is based on your representations that the existing unit will be sold or otherwise disposed of and will not be used again in the State without first obtaining a certificate of need if one is required.

It should be noted that the Agency's position is based solely on the facts represented by you and that any change in facts as represented would require further consideration by this office and a separate determination. If you have any questions concerning this matter, please feel free to contact this office.

Sincerely,

Ena Lightbourne
Project Analyst

Micheala Mitchell
Chief

cc: Acute and Home Care Licensure and Certification Section, DHSR
Construction Section, DHSR

October 25, 2021

Ms. Micheala Mitchell, Chief
Healthcare Planning and Certificate of Need Section
Division of Health Service Regulation
N.C. Department of Health & Human Services
809 Ruggles Drive
Raleigh, NC 27603

RE: Exemption Request for The Charlotte-Mecklenburg Hospital Authority d/b/a Atrium Health Cleveland ("AH Cleveland") to Acquire Replacement Magnetic Resonance Imaging ("MRI") Equipment

Dear Ms. Mitchell:

The Charlotte-Mecklenburg Hospital Authority d/b/a Atrium Health Cleveland ("AH Cleveland"), seeks to acquire a GE Signa Artist 1.5T MRI ("Replacement Equipment"). Please see Attachment A for a copy of AH Cleveland's current hospital license. The Replacement Equipment will replace AH Cleveland's current GE Signa Excite III HD 1.5T MRI ("Existing Equipment") which was installed in 2000 and is beyond its useful service life. The Existing Equipment is currently housed on the first floor of AH Cleveland's main hospital building located at 201 East Grover Street in Shelby, NC 28150 (see Attachment B).

The purpose of this letter is to provide the Agency with notice and to request a determination that AH Cleveland's purchase of the Replacement Equipment is exempt from Certificate of Need ("CON") review under the replacement equipment exemption provisions contained in Session Law 2013-360, Section 12G.3(b) and Session Law 2013-363, Section 4.6 (which are codified at N.C. Gen. Stat. 131E-184(f)(1)-(3)).

The General Assembly has chosen to exempt certain, otherwise reviewable events from CON review. Among those exemptions is the acquisition of "replacement equipment," defined as follows in the CON law:

> "Replacement equipment" means equipment that costs less than two million dollars ($2,000,000) and is purchased for the sole purpose of replacing comparable medical equipment currently in use which will be sold or otherwise disposed of when replaced.

See N.C. Gen. Stat. 131E-176(22a). Under the new provisions found at N.C. Gen. Stat. 131E-184(f)(1)-(3), the CON law provides:

(f) The Department shall exempt from certificate of need review the purchase of any replacement equipment that exceeds the two million dollar ($2,000,000) threshold set forth in G.S. 131E-176(22) if all of the following conditions are met:

(1) The equipment being replaced is located on the main campus.
(2) The Department has previously issued a certificate of need for the equipment being replaced. This subdivision does not apply if a certificate of need was not required at the time the equipment being replaced was initially purchased by the licensed health service facility.
(3) The licensed health service facility proposing to purchase the replacement equipment shall provide prior written notice to the Department, along with supporting documentation to demonstrate that it meets the exemption criteria of this subsection.

See Session Law 2013-360, Section 12G.3(b) and Session Law 2013-363, Section 4.6. The term "main campus" was defined in Session Law 2013-360, Section 13G.3(a) (codified N.C. Gen. Stat. 131E-176(14n)) as follows:

(14n) "Main campus" means all of the following for the purposes of G.S. 131E-184(f) and (g) only:

a. The site of the main building from which a licensed health service facility provides clinical patient services and exercises financial and administrative control over the entire facility, including the buildings and grounds adjacent to that main building.
b. Other areas and structures that are not strictly contiguous to the main building but are located within 250 yards of the main building.

The Existing Equipment is currently located on the first floor of AH Cleveland's main hospital building located at 201 East Grover Street Shelby, NC 28150, which is the site from which AH Cleveland provides clinical patient services and exercises financial and administrative control over the entire facility (see Attachment B). AH Cleveland's Facility Executive's office is located on the second floor of the main hospital building. Please see a copy of AH Cleveland's license in Attachment A.

In addition to the foregoing, to qualify for this exemption, the replacement equipment must be "comparable" to the equipment it replaces and the equipment being replaced must be "sold or otherwise disposed of when replaced." AH Cleveland's proposal qualifies for this exemption.

A. Cost of the Replacement Equipment

The purchase price of the Replacement MRI Equipment is $1,394,250 ($1,300,000 MRI + $94,250 Tax). A quote for the Replacement Equipment is provided in Attachment C. The projected total capital cost of the project is $2,918,506 (including taxes and freight) and includes the removal of the existing equipment, installation of

the Replacement Equipment, and replacement of the shielding in the room that houses the MRI.

Please note, AH Cleveland plans to temporarily lease a mobile MRI to be used only while the Replacement Equipment is being installed. At no time will AH Cleveland operate the temporary mobile MRI and the fixed MRI scanner simultaneously.

Additionally, the projected total capital cost of the project also includes the cost to construct a second mobile technology pad at AH Cleveland. AH Cleveland has one existing mobile technology pad that will be utilized by the temporary mobile MRI while the Replacement Equipment is being installed. The second mobile technology pad will be used for mobile lithotripsy and PET/CT, as those services – which currently utilize the existing mobile pad – will be unable to do so during the installation of the Replacement Equipment. The total capital cost schedule of the renovation required to install the new equipment and construct the additional mobile technology pad is provided in Attachment D.

B. Equipment Being Replaced is Located on the Main Campus

The Existing Equipment is currently located on the first floor of AH Cleveland's main hospital building (see Attachment B). The Replacement Equipment will be located in the same location as the Existing Equipment (see Attachment B).

C. Certificate of Need Issued for Equipment Being Replaced

This proposal also fits within the exemption criterion in Section 131E-184(f)(2) because the Department issued a Certificate of Need for the Existing Equipment (see Attachment E). The Existing Equipment was installed in 2000.

Please note, the Certificate of Need for the Existing Equipment was issued prior to the 2015 merger of Cleveland County Healthcare System ("CCHS") – which included Cleveland Regional Medical Center, which was formerly known as Cleveland Memorial Hospital and is now known as AH Cleveland -- into CMHA. Please see Attachment E for copy of the certificate as well as a copy of the Agency's approval of CMHA's exemption request to acquire Cleveland Regional Medical Center and its assets.

D. Comparable Equipment

The CON rule codified as 10A N.C.A.C. 14C.0303 (the "Regulation") defines "comparable medical equipment" in subsection (c) as follows:

> "Comparable medical equipment" means equipment which is functionally similar and which is used for the same diagnostic or treatment purposes.

AH Cleveland intends to use the Replacement Equipment for substantially the same MRI procedures for which it currently uses the Existing Equipment. The Existing Equipment is a GE Signa Excite III HD 1.5T MRI that was installed new in 2000. This Existing Equipment has been used for MRI procedures since installation.

The Replacement Equipment will perform all procedures currently performed on the Existing Equipment. Although it possesses some expanded capabilities due to technological improvements, the Replacement Equipment will perform the same MRI procedures (see Attachment F for the Equipment Brochure). The Replacement Equipment is therefore "comparable medical equipment" as defined in Subsection (c).

Furthermore, AH Cleveland does not intend to increase patient charges or per procedure operating expenses within the first 12 months after equipment acquisition. For further equipment comparison, please refer to Attachment G, the Equipment Comparison Chart.

Subsection (d) of the regulation further provides:

(1) it has the same technology as the equipment currently in use, although it may possess expanded capabilities due to technological improvements; and
(2) it is functionally similar and is used for the same diagnostic or treatment purposes as the equipment currently in use and is not used to provide a new health service; and
(3) the acquisition of the equipment does not result in more than a 10.0 percent increase in patient charges or per procedure operating expenses within the first twelve months after the replacement equipment is acquired.

The Replacement Equipment will meet all three of tests set out in Subsection (d). The Replacement Equipment satisfies the technology and functionality tests in Subsection (1) and (2) as discussed above and identified in the Comparison Chart (Attachment G). Moreover, AH Cleveland represents the use of the Replacement Equipment will not result in the types of expense or charge increases described in Subsection (d)(3).

Documentation provided in Attachment H indicates that 5,273 procedures were performed from September 2020 to August 2021 on the existing fixed equipment.

E. Disposition of Equipment

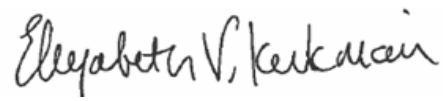
Please see Attachment I for a letter documenting the Existing Equipment will be taken out of service and will not be re-sold or re-installed in North Carolina without appropriate certificate of need approval.

CONCLUSION:

Based on the foregoing information, AH Cleveland hereby requests that the Agency provide a written response confirming that the acquisition of the Replacement Equipment described herein is exempt from CON review. If the Agency needs additional information to assist in its consideration of this request, please let us know.

Thank you for your consideration of this notice.

Sincerely,



Elizabeth V. Kirkman
Assistant Vice President
Atrium Health Strategic Services Group

Attachments

Attachment A

State of North Carolina

Department of Health and Human Services
Division of Health Service Regulation

Effective January 01, 2021, this license is issued to

The Charlotte Mecklenburg Hospital Authority

to operate a hospital known as

Atrium Health Cleveland

located in Shelby, North Carolina, Cleveland County.

This license is issued subject to the statutes of the State of North Carolina, is not transferable and shall remain in effect until amended by the issuing agency.

Facility ID: 953106

License Number: H0024

Bed Capacity: *308*

General Acute 288, Psych 14, Substance Abuse 6,

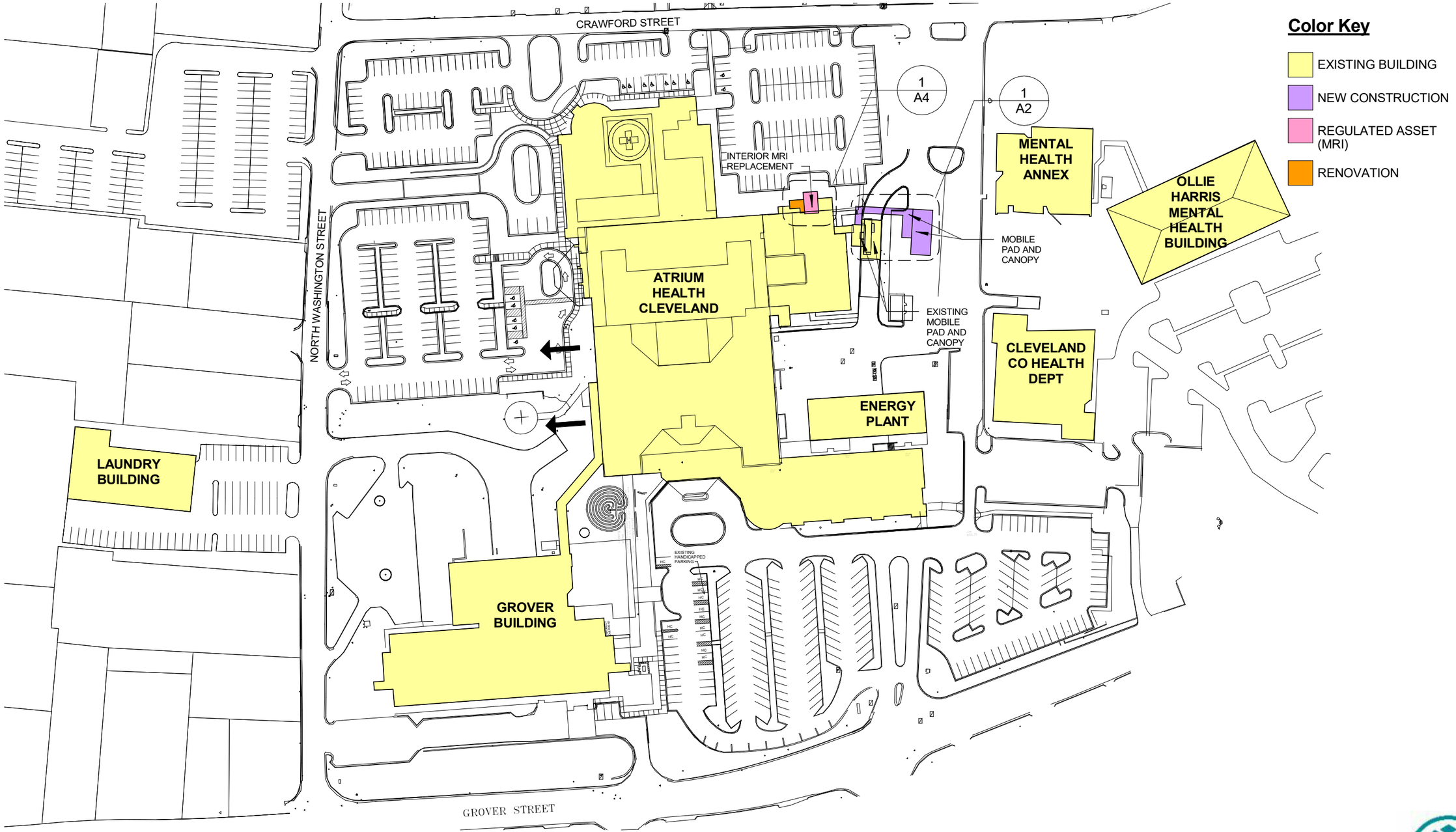
Dedicated Inpatient Surgical Operating Rooms: 1
Dedicated Ambulatory Surgical Operating Rooms: 0
Shared Surgical Operating Rooms: 8
Dedicated Endoscopy Rooms: 5

Authorized by:

Secretary, N.C. Department of Health and Human Services

Director, Division of Health Service Regulation

Attachment B



SITE PLAN

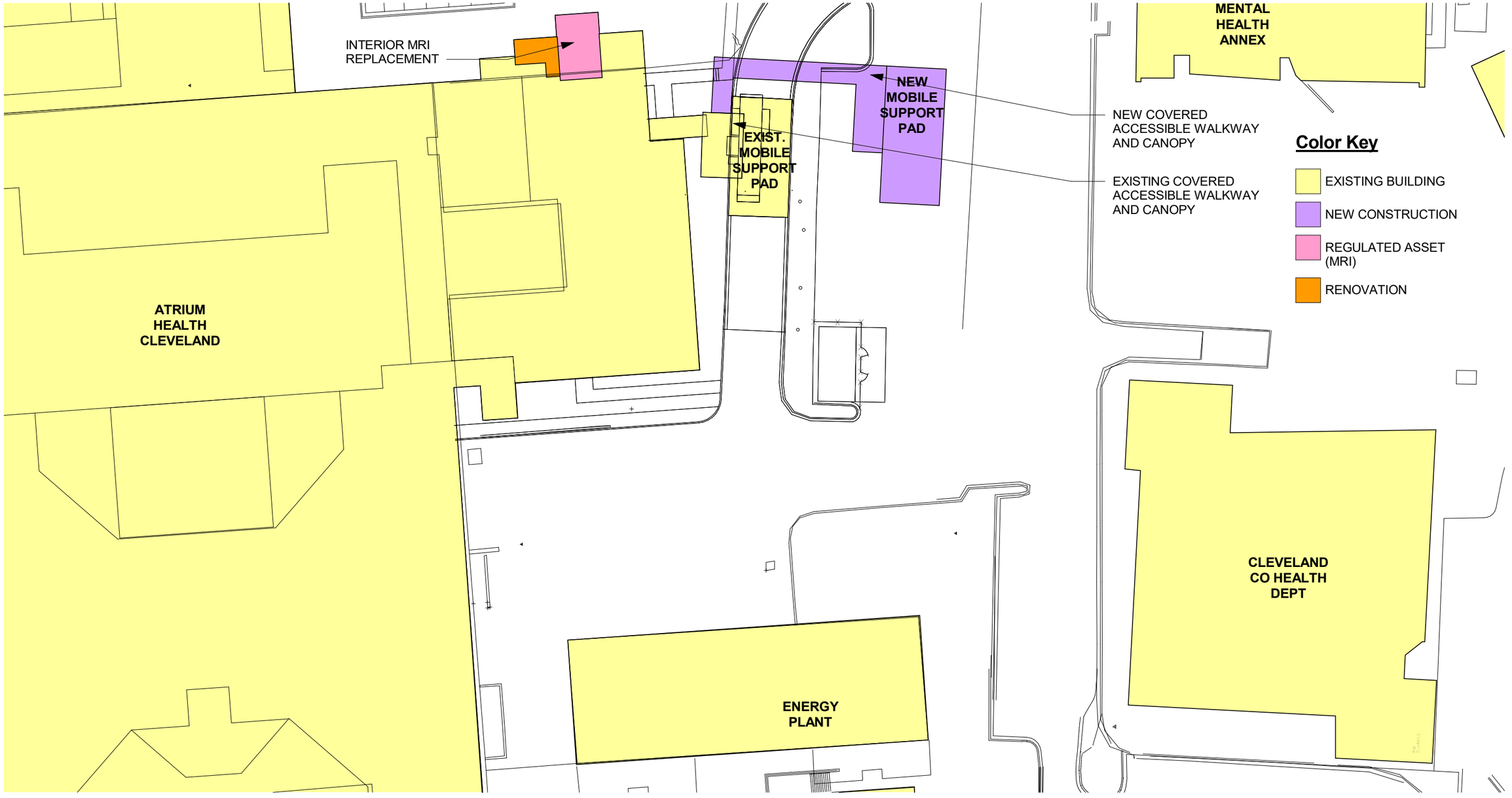
MRI REPLACEMENT

Atrium Health

10/04/2021

1" = 120'-0"

Atrium Health Cleveland



ENLARGED SITE PLAN

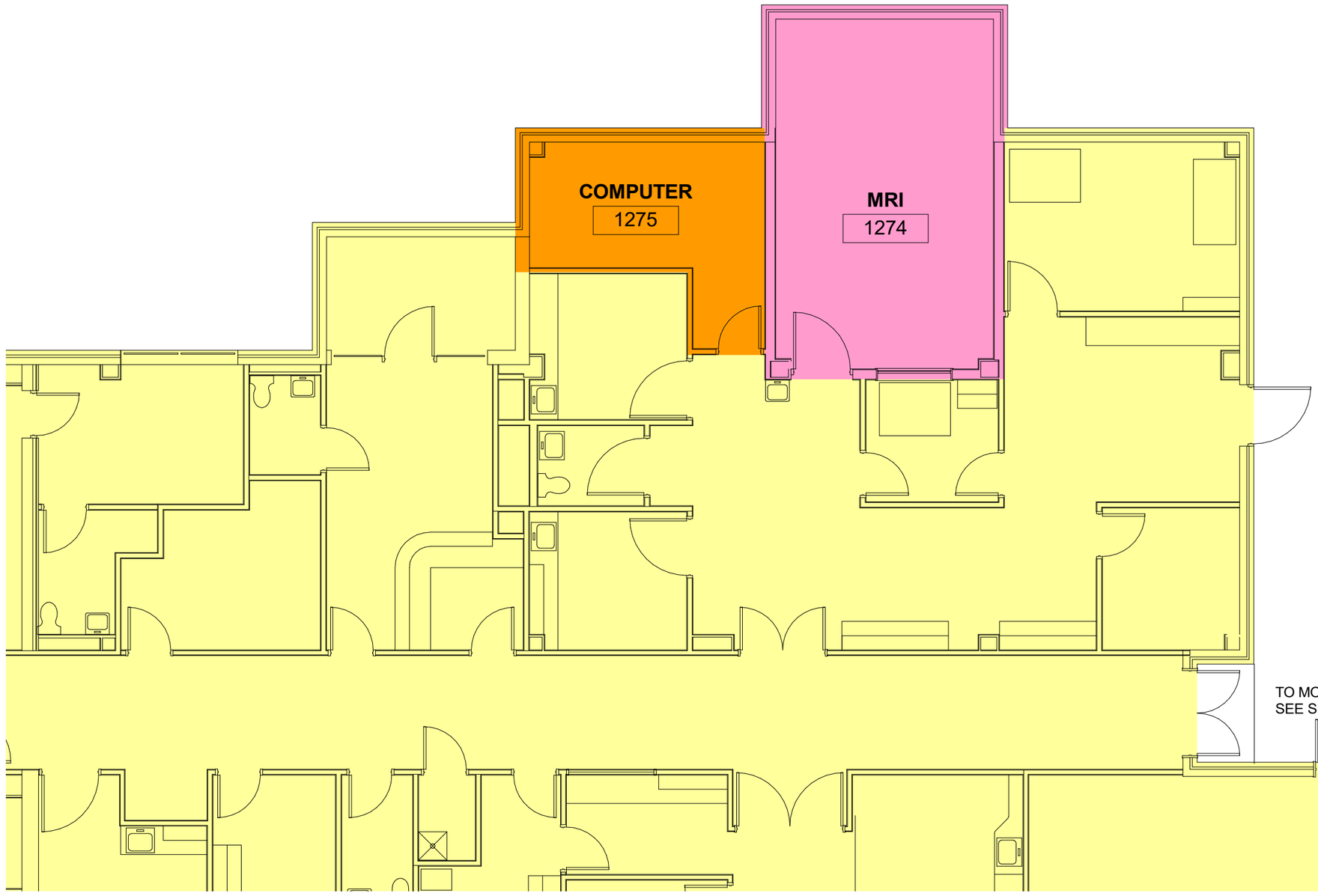
MRI REPLACEMENT

Atrium Health

10/04/21

1" = 40'-0"

Atrium Health Cleveland



Color Key

- EXISTING BUILDING
- REGULATED ASSET (MRI)
- RENOVATION

ENLARGED EXISTING LEVEL 01 PLAN

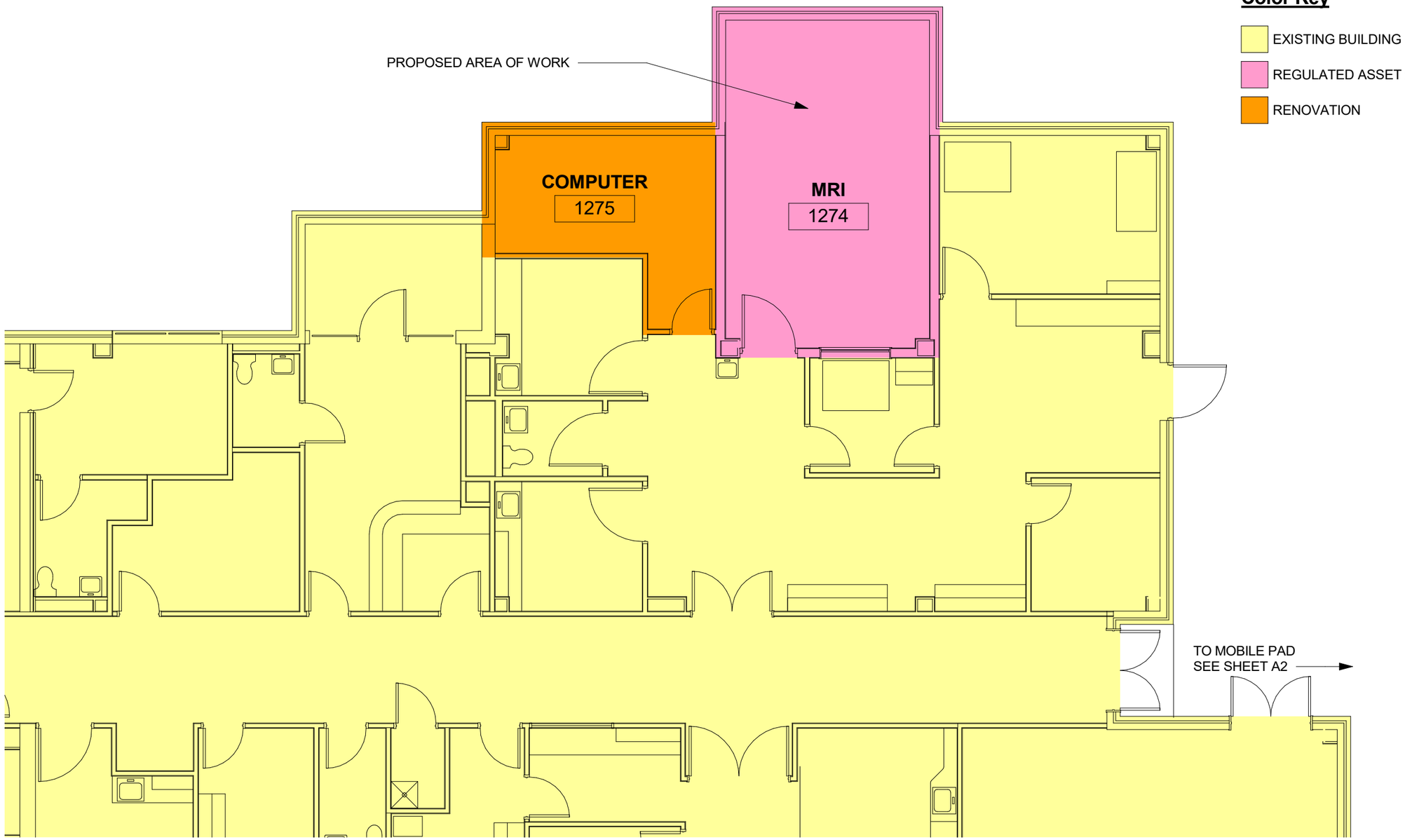
MRI REPLACEMENT

Atrium Health

10/04/2021

1/8" = 1'-0"

Atrium Health Cleveland



Color Key

- EXISTING BUILDING
- REGULATED ASSET (MRI)
- RENOVATION

ENLARGED PROPOSED LEVEL 01 PLAN

MRI REPLACEMENT

Atrium Health

10/04/2021

Atrium Health Cleveland

Attachment C

October 22, 2021
Quote Number: **2008560155.2**
Customer ID: **1-23I3PI**
Agreement Expiration Date: **12/31/2021**

Atrium Health Cleveland
201 E Grover St
Shelby, NC 28150-3917

This Agreement (as defined below) is by and between the Customer and the GE Healthcare business ("GE Healthcare"), each as identified below for the sale and purchase of the Products and/or Services identified in this Quotation, together with any applicable schedules referred to herein ("Quotation"). "Agreement" is this Quotation and either: (i) the Governing Agreement identified below; or (ii) if no Governing Agreement is identified, the GE Healthcare Terms and Conditions and Warranties that apply to the Products and/or Services identified in this Quotation. In the event of conflict, the Quotation supersedes.

GE Healthcare can withdraw this Quotation at any time before Customer: (i) signs and returns this Quotation or (ii) provides evidence of Quotation acceptance satisfactory to GE Healthcare ("Quotation Acceptance"). On Quotation Acceptance, this Agreement is the complete and final agreement of the parties relating to the Products and/or Services identified in this Quotation. There is no reliance on any terms other than those expressly stated or incorporated by reference in this Agreement and, except as permitted in this Agreement, no attempt to modify will be binding unless agreed to in writing by the parties. Modifications may result in additional fees and cannot be made without GE Healthcare's prior written consent.

Handwritten or electronic modifications on this Agreement (except an indication of the form of payment, Customer purchase order number and signatures on the signature blocks below) are void.

Governing Agreement:	CSS-GEHC MVA July 15 2011 a/k/a CSS-EQ-0031
Terms of Delivery	FOB Destination
Billing Terms	100% billing at Ship Completion (Fulfillment) / Delivery
Payment Terms	Net Due in 60 Days
Sales and Use Tax Exemption	No Certificate on File
Logistics Surcharge %	1.75%
Logistics Surcharge Amount	$22,358.72
Total Amount with Logistics Surcharge	$1,300,000.00

IMPORTANT CUSTOMER ACTIONS:

Please select your planned source of funds. Source of funds is assumed to be cash unless you choose another option. Once equipment has been shipped, source of funds changes cannot be allowed.

___ Cash

___ GE HFS Loan ___ GE HFS Lease

___ Other Financing Loan ___ Other Financing Lease Provide Finance Company Name _____

The parties have caused this Agreement to be executed by their authorized representative as of the last signature date below.

Atrium Health Cleveland

Signature: _____

Print Name: _____

Title: _____

Date: _____

_____
Purchase Order Number, if applicable

GE Precision Healthcare LLC, a GE Healthcare business

Signature: Herb Klann

Title: Sr Sales Manager Imaging

Date: October 22, 2021

To Accept This Quotation

Please sign and return this quotation together with your Purchase Order to:

Name: Herb Klann

Email herb.klann@ge.com

Phone: 724-504-8778

Fax:

Payment Instructions

Please **remit** payment for invoices associated with this quotation to:

GE Precision Healthcare LLC
P.O. Box 96483
Chicago, IL 60693

FEIN: 83-0849145

Atrium Health Cleveland

Addresses:

Bill To:	ATRIUM HEALTH CLEVELAND	CLEVELAND REGIONAL MEDICAL, CENTER 201 E GROVER STREET SHELBY, NC, 28150-3917
Ship To:	Atrium Health Cleveland	201 E Grover St, Shelby, NC, US, 28150-3917

To Accept This Quotation

- Please sign the quote and any included attachments (where requested).
- If requested, please indicate your form of payment.
- If you include a purchase order, please make sure it references the following information:
  The correct Quote number and Version number above
  The correct Remit To information as indicated in **"Payment Instructions"** above
  Your correct SHIP TO and BILL TO site name and address
  The correct Total Price as indicated above

Upon submission of a purchase order in response to this quotation, GE Healthcare requests the following to evidence agreement to contract terms: Signature page on quote filled out with signature and P.O. number **** OR**** Verbiage on the purchase order must state one of the following:

(i)Per the terms of Quotation # _____, (ii) Per the terms of GPO #_____; (iii) Per the terms of MPA# _____: or (iv) Per the terms of SAA # _____.

Include applicable quote/agreement number with the reference on the purchase order. In addition, Source of Funds (choice of Cash/Third Party Load or GE HFS Lease Loan or Third Party Lease through _____), must be indicated, which may be done on the Quote Signature Page (for signed quotes), or the Purchase Order (where quotes are not signed) or via a separate written source of funds statement (if provided by GE Healthcare)."

Catalog Item Details

Line	Qty.	Catalog	
1.	**1.00**	**E8912CA**	**Dimplex MR Heat Exchanger 49kW - Standard Ambient Temp**

GE Heat Exchangers - 49kW (20Tons)

Cooling for your GE Healthcare MR system has never been so easy. GE Healthcare has partnered with the Glen Dimplex Group, a world leader in cooling systems, to offer heat exchangers designed to meet the needs of your MR System. Now you can look to GE Healthcare for your entire MR purchase and support.

This heat exchanger is highly reliable and the only unit verified to perform with the new platform of GE Healthcare MR systems. As part of your integrated GE Healthcare solution, you'll work with a single contact throughout the whole installation. A Project Manager of Installation will help with building layout, room designs, delivery and installation - every step until your system is ready to scan. Our team will work seamlessly with architects, contractors and your internal team to help ensure timely, cost-effective completion.

Once your cooling system is running, you'll get fast, highly-skilled service support managed through GE Healthcare - with the same quality and response time you expect from your MR system.

FEATURES AND BENEFITS
• Designed to provide stable fully dedicated cooling for your MR system's needs
• Water/glycol outdoor-air-cooled heat exchangers to support your highest exam volumes and your full range of diagnostic procedures
• Redundant fluid pumps with automatic switchover let you keep operating with no loss of cooling even if one pump goes down
• Quad compressor, dual tandem refrigeration circuit design saves on energy while your system smoothly transitions through the 10% to 100% heat load capacity cycles of patient scanning and idling
• Quiet operation between patient exams and overnight - ideal for facilities in residential areas
• Comes with installation support, installation visits, preventative maintenance visit and 1 full year of parts and labor warranty
• Installation support includes: support through GE's Project Manager of Install, GE's Design Center, technical support from the Glen Dimplex company, two (2) installation visits
• Comprehensive and quality service rapidly delivered through our CARES service solution
• 65 gallons of 100% glycol concentrate for complete system filling and diluting
• Wall mounted remote display panel provides the ability to monitor the system's operation and indicates possible system errors
• Filter kit with flow meter helps to ensure purity of water prior to entry to the MR system
• Highly recommended that Vibration Isolation Spring Kit (E8911CJ) be added for systems that will be roof top mounted

SPECIFICATIONS
• Net Cooling Capacity: 49 kW / 20 Ton
• Maximum Coolant Flow: 35 gpm (132 l/m)
• Coolant Outlet Temperature: 48 F (8.9 C)
• Coolant Temp Stability: E 1.8 F (E1.0 C)
• Max Coolant Pressure : 70 Psi (4.8 Bar)
• Refrigerant: R407C
• Ambient Temp Range: -20 to 120 F (-30 to 50 C)
• Condenser Air Flow (Approx): 18,000 Cfm
• Tank Capacity: 100 gal (378 l)
• Flow Meter Range: 4-40 gpm
• Filters: 50 micron cartridge filters
• Supply Voltage: 460v / 3 phase / 60 Hz
• Coolant Connections: 2"" NPTF
• Overall Size (L x W x H) 44"" x 136"" x 84.5""

COMPATIBILITY:
• GE MR450w or MR System NOTE: Item is NON-RETURNABLE and NON-REFUNDABLE

Line	Qty.	Catalog	
2.	**1.00**	**Y0000LC**	**Pricing Non-Disclosure Language**

This CONFIDENTIAL offer may not be shared with any third parties, buying evaluation groups or anyone not directly employed by customer. This offer is being extended in relation to a national show-site agreement, research partnership, or other non-standard transaction. If required for publishing, GE will happily provide a list price quote.

Line	Qty.	Catalog	
3.	**1.00**	**S7529AE**	**SIGNA™ ARTIST 1.5T 64 CHANNEL 29.1 MR SYSTEM**

The SIGNA™ Artist 1.5T 70cm wide-bore magnetic resonance system with SIGNA™Works AIR™ Edition (MR29.1) is designed to enable you to deliver both clinical excellence and operational efficiency while changing the MR experience for your patients and staff. With SIGNA™ Artist, put your patients at ease from start to finish with feet-first or head-first entry, Comfort Tilt head and neck positioning as well as free-breathing, motion forgiving and noise reduced exams. For your staff, simplify and accelerate the scanning process from set-up to acquisition to post-processing with access to an extensive range of clinical imaging and advanced visualization capability.

The SIGNA™ Artist system catalog comprises the system RF-architecture electronics, gradient electronics, computing platform, phantoms, and MR29.1 operating/imaging software:

• 64ch TDI RF-Receive Technology and Coil Suite
• XP Gradient and Quiet Acoustic Reduction Technology
• Computing Platform and DICOM Conformance
• SIGNA™Works AIR™ IQ Edition Workflow
• SIGNA™Works AIR™ IQ Edition Acceleration, Motion Correct and Tissue Suppression Technology
• SIGNA™ Works AIR™ IQ Edition Clinical Applications Toolkits
• SIGNA™ Works AIR™ IQ Edition READYView Advanced Visualization

TECHNOLOGY FOUNDATION

The RF-architecture, gradient and computing technology on SIGNA™ Artist are designed to deliver the signal-to-noise, dynamic range, spatial resolution, temporal resolution and computational power needed to enable demanding clinical applications.

Total Digital Imaging (TDI)

SIGNA™ Artist features the Total Digital Imaging RF-architecture with a 64-channel configuration. The TDI RF-architecture uses a Direct Digital Interface (DDI) to convert the signal from each coil element to a digitized signal (there is no mixing of signal from multiple elements to the same digitizer) to deliver high signal, low noise with extended dynamic range or gray-scale capability.

The SIGNA™ Artist coil suite is sold separately and designed to enhance patient comfort and image quality while simplifying workflow.

Gradient and Quiet Technology

SIGNA™ Artist delivers high spatial and temporal resolution through efficient gradient coil design and a 3-axis gradient amplifier power supply. The gradients are non-resonant and actively shielded to minimize eddy currents and use an innovative digital control architecture designed to deliver high fidelity, accuracy and reproducibility over a large FOV.

• Peak amplitude per axis: 44 mT/m
• Up to 200 T/m/s instantaneous peak slew rate per axis
• Peak current and voltage: 830 Amps, 1650 Volts
• Digital PI feedback loop control
• Maximum FOV: 55 cm x 55 cm x 50 cm
• Duty Cycle: 100%

Designed to deliver an enhanced patient experience, SIGNA™ Artist features Quiet Acoustic Reduction Technology (ART) that significantly addresses both vibrational noise and airborne sound. Quiet acoustic reduction uses 5 levels of isolation, dampening and gradient optimization technology to mitigate vibration and mute sound.

• Gradient & RF coil isolation – isolates the resonance module from the magnet
• Vibro-acoustic isolation –isolates the magnet from the building
• Mass-damped acoustic barriers – further mutes sound
• Gradient waveform optimization – user selectable

Computing Platform and DICOM Conformance

SIGNA™ Artist utilizes a parallel, multi-processor design to enable simultaneous scanning, reconstruction, filming, post-processing, archiving and networking. Both the host computer and reconstruction systems use the Scientific Linux operating system. The host computer utilizes a single tower configuration and includes an LDC monitor and keyboard assembly with an integrated intercom speaker, microphone, volume controls, and emergency stop switch. Start scan, pause scan, stop scan and table advanced to center "hot" keys are also included. For data reconstruction, the Orchestra platform enables integration of advanced reconstruction elements to support demanding, data intense, applications.

Host PC Platform – Intel Xeon W-2123 CPU

• Memory: 64 GB
• Hard Disk Storage: 1024 GB SSD
• Media Drives: CD/DVD

Reconstruction Engine – Gen7 Dual Intel Xeon Gold 5118

• Memory: 128 GB
• Hard Disk Storage: 960 GB SSD
• 2D FFT/second (256 x 256 Full FOV): 63,000 2DFFT/second

SIGNA™ Artist generates MR Image, Secondary Capture, Structured Report, and Gray Scale Softcopy Presentation State DICOM objects. The DICOM networking supports both send and query retrieve as well as send with storage commit to integrate with PACS archive. Please refer to the DICOM Compliance Statement for details.

SIGNA™WORKS AIR™ IQ EDITION WORKFLOW

The SIGNA™Works AIR™ IQ Edition workflow tools comprise the modality worklist, protocol libraries, workflow manager, auto-functions, inline viewing and inline processing. Together these tools are designed to change the way you work by simplifying and accelerating the scanning process from set-up to acquisition to post-processing. With SIGNA™Works, workflow can begin before the patient enters the magnet room and exams can be completed with a few mouse clicks delivering quality and consistency for all patients and from all technologists. At the same time, SIGNA™Works AIR™ workflow maintains the flexibility needed to rapidly adapt and optimize exams for specific patient situations.

With AIR™ Workflow, scan set-up starts with Modality Worklist, an automated method to obtain patient, exam and protocol information from a DICOM work-list server. For sites with full DICOM connectivity, once a patient has been selected from the Modality Worklist, the In-Room Operator Console will automatically highlight the relevant exam details. The Modality Worklist enables complete control of the MR protocol prescription, but also reduces work by allowing the MR protocol to be selected and linked to the patient record in advance of the patient's arrival.

Protocol Tools enable exam automation while also giving the user complete control of protocols for prescription, saving, searching, and sharing. Protocols are organized into two libraries: GE Optimized (preloaded protocols) and Site Authored (customized and saved). Protocols can be saved based on patient demographics, anatomy, scan type, or identification number for rapid search and selection, and commonly used protocols can be flagged as favorites for quick selection from the Modality Worklist. When AIR™ Recon DL (sold separately) and HyperWorks (sold separately) are purchased, associated protocols are unlocked for use.

In addition to pre-programmed protocols, ProtoCopy enables a complete exam protocol to be shared with the click of a mouse. GE protocols provided with the system include Protocol Notes designed to guide the user through the procedure. For special applications, Protocol Notes also include video guides with step-by-step video-based demonstration and instruction. Protocol Notes can be edited by the user to reflect protocol modifications to aid communication among users.

In the scan room, the AIR Touch™ user interface simplifies coil activation to one touch and one click. AIR Touch™ automatically determines coil element locations based on the IntelliTouch landmark and intelligently generates the coil configuration with elements activated to optimize image quality for coverage, uniformity and parallel imaging acceleration factor.

At the console, WorkFlow Manager implements the selected protocol. The Workflow Manager controls location prescription, acquisition, processing, visualization and networking, and can fully automate these steps, if requested by the user. Once the target anatomy has been prescribed, the Linking feature can be used to translate appropriate parameters to all subsequent series that have been linked, eliminating the need for further action by the user.

Auto Functions when selected can automatically initiate the localizer, coil selection, series-to-series scanning, multi-station scanning, prescription of scan plans for brain exams, as well as delivered instructions to the patient. Pause and Resume allows the user to pause a scan in progress (even in automated mode), to respond to a patient need, and then resume mid-scan (without starting the scan over)

helping to address rescans.

For multi-station exams, such as brain and spine, chest and body, lower leg run-offs, AIR™ Workflow streamlines localization and scanning. Whole Body Localizer automates the acquisition and pasting of multi-station scans for planning, and Whole-Body automated multi-station scanning can be performed with FSE-IR, 3D SPGR and DWI diffusion. Once scanning and processing are complete, Split Exam provides the capability to extract a subset of series from the exam and create/assign a separate exam number for accession numbers in billing and PACS systems.

Inline Processing automatically completes post-processing steps for the user after the images have been reconstructed and saved into the database. For certain tasks, such as vascular segmentation, the user must accept the results, or complete additional steps prior to saving the images to the database. These automated processing steps can be saved to the (scan) protocol to ensure consistent output and workflow:

• Diffusion weighted series: automatic compute and save
• Diffusion tensor series: automatic compute and save
• eDWI: automatic compute and save
• Image filtering: automatic compute and save
• Maximum/Minimum Intensity Projection: automatic compute and save
• Pasting: automatic compute and save
• Reformat to orthogonal plane: automatic compute and save
• T2 map for cartilage: automatic compute and save
• 3D Volume Viewer: automatic load
• Image Fusion: automatic load
• Interactive Vascular Imaging: automatic load
• FiberTrak: automatic load
• Spectroscopy: automatic load

SIGNA™WORKS AIR™ IQ EDITION CLINICAL APPLICATIONS TOOLKITS

SIGNA™Works AIR IQ Edition is designed to change the way you work by simplifying and accelerating the scanning process from set-up to acquisition to post-processing while delivering access to a broad range of clinical imaging capability. The AIR™ IQ Edition of SIGNA™Works comprises the operating software, pulse sequence families, clinical applications and visualization toolkits as well as acceleration, motion correction and tissue suppression technology.

The technology tools in the SIGNA™Works AIR™ IQ Edition are designed to address overall workflow, rescans and scan time as well as the impact of challenging patients, challenging anatomy and challenging physiology.

Acceleration Technology

Reduce scan set-up and acquisition time with a suite of techniques highlighted by AIR™ Workflow, parallel imaging and partial k-space techniques. Many techniques can be used in combination for additive effects.

• AIR Touch™ intelligent activation reduces set-up time by reducing coil selection and optimization to one finger touch and one mouse click. AIR™ Touch then activates coil elements based on the anatomy, FOV and ARC parallel imaging factor.
• AIR™ Recon is a smart reconstruction algorithm that reduces background noise and artifacts enabling enhanced image quality without the need for longer scan times. AIR™ Recon is compatible with a broad range of imaging sequences: the FSE fast spin echo, 3D Cube fast spin echo, SPGR/FSPGR, GRE/FGRE, PROPELLER MB, eDWI, FOCUS DWI, FIESTA, Black Blood, Time Course, MDE, SSMDE and StarMap.
• ARC parallel imaging reduces scan time using an auto-calibrating (data-driven) technique. ARC selectively acquires data using an adaptive algorithm. As a result, ARC enables smaller FOV prescription with less sensitivity to motion and prevents coil calibration artifacts.
• ASSET parallel imaging reduces scan time using an array spatial sensitivity (image driven) technique. ASSET takes advantage of the data produced by the multiple coil elements to reduce the total data needed.
• Flexible No Phase Wrap reduces scan time by reducing the number of increments acquired based on a flexible user-selectable factor.
• Fraction NEX reduces scan time by reducing the number of data averages.

Motion Correction Technology

Enable free-breathing body exams and address the effects of motion with patient-adaptive technologies that proactively detect and correct for motion without hardware dependencies or the need for user intervention.

• Auto Body Navigators deliver real-time, respiratory motion compensated imaging for a broad range of sequences, including T1w dynamic contrast-enhanced imaging. Auto Body Navigators use a software-based tracking pulse that is automatically placed for the user

and allows on-the-fly adjustment to adapt to challenging patient circumstances, again without the need for hardware.
• PROPELLER MB combines radial acquisition and motion correction post-processing to mitigate the effects of motion without the need to position the patient over a sensor. PROPELLER MB can be used to generate T1, T2, PD, T1 FLAIR, and T2 FLAIR contrasts and is compatible with FatSat, ASPIR, STIR T1 and Auto Body Navigators to enable usage for a broad range of exams.

Tissue Suppression Technology

Modify the contribution of fat or water signal with multiple tissue suppression techniques.

• FatSat uses a frequency selective pulse to target and suppress the signal from fat.
• STIR uses an inversion pulse to null either the signal from fat or water based on the timing of the pulse.
• SPECIAL essentially combines FatSat and STIR by using a frequency selective inversion pulse that targets and suppresses the signal from fat.
• ASPIR enhances fat suppression by using a using a spectrally selective (instead of a single frequency) inversion pulse to null the signal from fat.
• IDEAL is a 3-point Dixon technique that separates the signal from fat and water based on phase shift and enables the generation of water-only, fat-only, in-phase and out-of-phase images.
• Flex is 2-point Dixon techniques that separates the signal from fat and water based on phase shift and enables the generation of water-only, fat-only, in-phase and out-of-phase images.

Clinical Toolkits

The SIGNA™Works AIR™ IQ Edition clinical imaging tools are organized and optimized to address six clinical work areas: NeuroWorks, OrthoWorks, BodyWorks, OncoWorks, CVWorks and PaedWorks.

NeuroWorks comprises pre-programmed protocols, clinical applications and visualization tools designed for the challenges of brain and brachial plexus imaging. Resulting capability starts with simplified prescription and protocol set-up. Imaging capability extends to sensor-free motion correction, advanced volumetric imaging, enhanced diffusion, susceptibility assessment and selective tissue suppression techniques. Post-processing capability augments the portfolio with 3D multi-planar reformat, volume segmentation/rendering, diffusion and fibertrak assessment and dynamic contrast-enhanced assessment.

• READYBrain auto-align for automated brain exam prescription
• PROPELLER MB motion robust radial-FSE with T1, PD, T2, T2 FLAIR, T1 FLAIR with STIR and ASPIR
• PROPELLER DW Duo FSE-based diffusion with susceptibility reduction
• Flex 2-point Dixon fat-water separation for 2D FSE and 3D Cube
• 3D Cube 2.0 FSE-based imaging with T1, T2, T1 FLAIR, T2 FLAIR and STIR
• 3D Cube Dual Inversion Recovery for gray or while matter nulling
• 3D COSMIC modified steady state imaging
• 2D/3D MERGE T2* multi-echo fast gradient echo imaging
• 3D BRAVO IR prepared fast SPGR imaging with concentric k-space filling
• 3D MP-RAGE IR prepared fast SPGR imaging with sequential k-space filling
• 3D FIESTA and 3D FIESTA-C fast steady state imaging
• eDWI enhanced diffusion with Multi-B value and SmartNEX
• DTI diffusion tensor imaging
• FiberTrak post-processing for diffusion tensor
• Inhance 3D velocity phase-sensitive non-contrast MRA
• Inhance 2D in-flow non-contrast MRA
• 3D SWAN 2.0 GRE-based multi-echo susceptibility imaging
• PROBE PRESS single voxel spectroscopy
• BrainStat GVF and AIF parametric maps
• READYView and BrainView post-processing

OrthoWorks delivers pre-programmed protocols, clinical applications and visualization tools designed for the challenges of joint, long bone and spine imaging. Resulting capability starts with fast-spin echo techniques as the foundation for articular cartilage, ligaments, menisci and sub-chondral bone imaging. Imaging capability also extends to sensor-free motion correction, advanced volumetric imaging, selective tissue suppression, cartilage assessment and spectral imaging for MR-Conditional implants. Post-processing capability augments the portfolio with 3D multi-planar reformat, volume segmentation/rendering and T2 cartilage mapping.

• FSE and frFSE fast spin echo imaging suites with dynamic phase correction
• FatSat, STIR, SPECIAL, ASPIR, Spectral Spatial fat-suppression tools
• MARS High Bandwidth distortion reduction for FSE
• MAVRIC SL FSE-based spectral imaging for MR-Conditional implants with T1, PD, T2 and STIR
• PROPELLER MB motion robust radial FSE with T1, PD, T2 and Fat Suppression (STIR and ASPIR)

• 3D Cube 2.0 FSE-based imaging with T1, T2, and STIR
• Flex 2-point Dixon fat-water separation for 2D FSE and 3D Cube
• 3D COSMIC modified steady state imaging
• 2D/3D MERGE T2* multi-echo fast gradient echo imaging
• CartiGram T2 cartilage mapping
• READYView post-processing

BodyWorks delivers pre-programmed protocols, clinical applications and visualization tools designed for the challenges of imaging the upper abdomen, liver, male pelvis and female pelvis. Resulting capability starts with sensor-free motion correction and navigators that enable the ability to conduct free-breathing exams with a broad range of contrast weighting capability. Imaging capability further extends to snap-shot imaging, volumetric MRCP imaging, dynamic volumetric imaging, enhanced diffusion, iron deposition and selective tissue suppression techniques. Post-processing capability augments the portfolio with 3D multi-planar reformat and high-definition maximum/minimum intensity pixel projection.

• Auto Navigators diaphragm tracker for free-breathing scanning
• PROPELLER MB motion robust radial FSE with T1 and Fat Suppression (STIR and ASPIR)
• 3D Cube FSE-based imaging with T1, T2, and STIR
• eDWI enhanced diffusion with Multi-B value and SmartNEX
• 3D Dual Echo gradient echo in/out phase imaging
• 3D LAVA and Turbo LAVA with Turbo ARC and SPECIAL for dynamic or single-phase imaging
• 3D LAVA Flex GRE 2-point Dixon fat-water separation for dynamic or single-phase imaging
• IDEAL FSE 3-point Dixon fat-water separation
• Flex GRE 2-point Dixon fat-water separation
• 3D MRCP frFSE imaging
• 2D Fat Sat FIESTA fast steady state imaging
• Enhanced SSFSE Snapshot multi-slice imaging with SmartR
• Whole-Body multi-station localizer and pasting
• Whole-Body multi-station FSE-IR, 3D SPGR and DWI imaging
• Inhance 2D in-flow with IR non-contrast MRA
• StarMap iron assessment for liver and heart (acquisition)
• Multiphase DynaPlan
• SmartPrep automated bolus detection
• Fluoro Trigger real-time bolus monitoring
• READYView and BodyView post-processing

OncoWorks delivers pre-programmed protocols, multi-station, contrast-timing, clinical applications and visualization tools designed for the challenges of imaging throughout the brain, spine and body. Resulting capability starts with tools that simplify and streamline the steps associated with multi-station acquisition and the timing of contrast delivery. Imaging capability includes sensor-free motion correction and navigators that enable the ability to conduct free-breathing exams with a broad range of contrast weighting capability. Capability further extends to snap-shot imaging, dynamic volumetric imaging, enhanced diffusion and selective tissue suppression techniques. Post-processing capability augments the portfolio with 3D multi-planar reformat, volume segmentation/rendering, diffusion assessment and auto-contour.

• Auto Navigators diaphragm tracker for free-breathing scanning
• PROPELLER MB motion robust radial-FSE with T1, PD, T2, T2 FLAIR, T1 FLAIR with STIR and ASPIR
• PROPELLER DW Duo FSE-based diffusion imaging with susceptibility reduction
• Flex 2-point Dixon fat-water separation for 2D FSE and Cube
• 3D Cube 2.0 FSE-based imaging with T1, T2, T1 FLAIR, T2 FLAIR and STIR
• 3D Cube Dual Inversion Recovery for gray or while matter nulling
• 3D BRAVO IR prepared fast SPGR imaging with concentric k-space filling
• 3D MP-RAGE IR prepared fast SPGR imaging with sequential k-space filling
• Enhanced SSFSE Snapshot multi-slice imaging with SmartR
• Whole-Body multi-station localizer and pasting
• Whole-Body multi-station FSE-IR, 3D SPGR and DWI imaging
• eDWI enhanced diffusion with Multi-B value and SmartNEX
• 3D LAVA and TurboLAVA with Turbo ARC and SPECIAL
• Multiphase DynaPlan
• SmartPrep automated bolus detection
• Fluoro Trigger real-time bolus monitoring
• READYView, BrainView and BodyView post-processing

CVWorks delivers pre-programmed protocols, multi-station, contrast-timing, clinical applications and visualization tools designed for the challenges of imaging vascular structures and the heart. Resulting capability starts with tools that simplify and streamline the steps

associated with multi-station acquisition and the timing of contrast delivery. Imaging capability includes sensor-free navigators that enable the ability to conduct free-breathing exams. For MRA, imaging capability includes 2D and 3D time-of-flight and phase contrast MRA, non-contrast MRA and dynamic MRA techniques. For the heart, imaging capability includes techniques for morphology, function, tissue characterization and iron deposition. Post-processing capability augments the portfolio with interactive vascular imaging for MRA and high-definition maximum/minimum pixel projection.

• Auto Navigators diaphragm tracker for free-breathing scanning
• iDrive for free breathing cardiac planning
• 2D FIESTA Cine gated steady-state, multi-phase imaging
• 3D FS FIESTA steady-state imaging with Fat Sat
• 2D/3D IR Prep gated fast gradient echo imaging
• Black Blood SSFSE single-shot FSE-based imaging
• Cine IR fast-gradient echo cardiac cine imaging with IR-prep pulse
• 2D/PS MDE phase sensitive tissue characterization
• StarMap iron assessment for liver and heart (acquisition)
• 2D/3D Time-Of-Flight & 2D Gated Time-of-Flight
• 2D/3D Phase Contrast & Phase Contrast Cine
• TRICKS dynamic contrast enhanced 3D MRA
• Inhance 3D DeltaFlow non-contrast MRA
• Inhance 2D in-flow non-contrast MRA
• SmartPrep automated bolus detection
• Fluoro Trigger real-time bolus monitoring
• 3D QuickStep automated multi-station imaging
• READYView post-processing

PaedWorks delivers pre-programmed protocols, clinical applications and visualization tools designed for the challenges of imaging pediatric patients. Resulting capability starts with sensor-free motion correction and navigators that enable the ability to conduct free-breathing exams with a broad range of contrast weighting. Imaging capability further extends to advanced volumetric imaging, dynamic volumetric imaging, enhanced diffusion, susceptibility assessment, selective tissue suppression techniques and spectral imaging for MR-Conditional implants. Post-processing capability augments the portfolio with 3D multi-planar reformat, volume segmentation/rendering and diffusion assessment.

• PROPELLER MB motion robust radial-FSE with T1, PD, T2, T2 FLAIR, T1 FLAIR with STIR and ASPIR
• 3D Cube 2.0 FSE-based imaging with T1, T2, T1 FLAIR, T2 FLAIR and STIR
• 3D Cube Dual Inversion Recovery for gray or while matter nulling
• 3D COSMIC modified steady state imaging
• 2D/3D MERGE T2* multi-echo fast gradient echo imaging
• 3D BRAVO IR prepared fast SPGR imaging with concentric k-space filling
• 3D MP-RAGE IR prepared fast SPGR imaging with sequential k-space filling
• 3D FIESTA and 3D FIESTA-C fast steady state imaging
• eDWI enhanced diffusion with Multi-B value and SmartNEX
• DTI diffusion tensor imaging
• FiberTrak post-processing for diffusion tensor
• SWAN 2.0 3D GRE-based multi-echo susceptibility imaging
• PROBE PRESS single voxel spectroscopy
• MAVRIC SL FSE-based spectral imaging for MR-Conditional implants
• Auto Navigators diaphragm tracker free-breathing scanning
• 3D LAVA and Turbo LAVA with Turbo ARC and SPECIAL for dynamic or single-phase imaging
• 3D LAVA Flex GRE 2-point Dixon fat-water separation for dynamic or single-phase imaging
• Enhanced SSFSE Snapshot multi-slice imaging with SmartR
• Black Blood SSFSE single-shot FSE-based imaging
• Cine IR fast-gradient echo cardiac cine imaging with IR-prep pulse
• 2D PS/MDE phase sensitive tissue characterization
• StarMap iron assessment for liver and heart (acquisition)
• BrainStat GVF and AIF parametric maps
• READYView and BrainView post-processing

Advanced Visualization and Post-Processing

READYView is a SIGNA™ Works AIR™ IQ Edition advanced visualization tool designed to simplify the quantitative analyses of multiple data sets. READYView automatically selects the most relevant post-processing protocol for the user and provides guided workflow and general assistance for the processing algorithms. In addition, the user can customize workflows with adjustable layouts, personalized parameter settings and custom review steps. Key capabilities of READYView include the ability to analyze, export and

save:

• Time series
• Diffusion weighted series
• Diffusion tensor series
• Variable echo series
• Blood oxygen level dependent (BOLD) series fMRI processing
• Spectroscopy data (single voxel and 2D or 3D CSI)
• MR Touch (MR elastography) series

Line	Qty.	Catalog	
4.	**1.00**	**M7110HD**	**SIGNA Artist 1.5T Magnet Collector**

To improve the patient experience and provide high image quality, no other component of an MRI system has greater impact than the magnet. The SIGNA Artist 1.5T system features a wide bore magnet that delivers a large field of view. The magnet geometry has been optimized to reduce patient anxiety by providing more space in the bore and more exams with the patient's head outside of the magnet. The 55cm field of view (50cm in Z direction) provides uniform image quality and can reduce exam times since fewer acquisitions may be necessary to cover large areas of anatomy. Complemented by GE's active shielding technology, the Artist has very flexible installation specifications to provide easy siting. And with zero-boil-off magnet technology, helium refills are effectively eliminated, thus reducing operating costs and maximizing uptime.

Magnet:

• Manufactured by GE Healthcare.
• Operating field strength 1.5T (63.86 MHz).
• Active magnet shielding
• Zero boil-off Cryogens.
• Magnet length 179cm.
• Patient Aperture 76 cm.
• Patient Bore Diameter 70cm.
• Patient Bore Length 105cm.
• Maximum Field of View 55 cm x 55 cm x 50 cm.

Magnet Homogeneity: Typical ppm and Guaranteed ppm shown.

• 10cm DSV 0.007 and 0.02.
• 20cm DSV 0.035 and 0.06.
• 30cm DSV 0.10 and 0.15.
• 40cm DSV 0.33 and 0.43.
• 45cm DSV 0.88 and 1.0.
• 48cm DSV 1.75 and 2.0.
• 50cm DSV 2.8 and 3.3.

DSV = Diameter Spherical Volume.
Fringe field (axial x radial):

• 5 Gauss = 4.0 m x 2.5 m.
• 1 Gauss = 5.8 m x 3.2 m.

Quiet Technology:
GE has implemented Quiet Technology on critical components of the Optima MR system to reduce acoustic noise and improve the patient environment. This technology enables full use of the eXtreme Gradient Platform for excellent image quality, while maintaining a safe environment for the patient. The technology encompasses the gradient coil, RF body coil, and magnet mounting.

Line	Qty.	Catalog	
5.	**1.00**	**S7505EK**	**Preinstallation Collector and Cable Concealment Kit**

The Preinstallation Collector delivers to the site in advance of the magnet and main electronic components. This facilitates the later delivery and installation of supporting electronics. The following are the main components in the Preinstallation collector:
• Heat exchange cabinet for distribution of chilled water.
• Primary Penetration wall panel for support of the penetration cabinet.
• Secondary Penetration wall panel for support of gradient filters, helium cables, and chilled air and water.
• Helium cryocooler hose kit.

The Cable Concealment Kit accommodates a wide-range of scan room ceiling heights and is designed to provide a clean-look installation by concealing the overhead cabling from view.

Line	Qty.	Catalog	
6.	**1.00**	**M6001AA**	**Vent Adapter, Standard 8" Straight Up**

Vent Adapter, Standard 8" Straight Up

Line	Qty.	Catalog	
7.	**1.00**	**M7006CF**	**SIGNA Artist 1.5T Cable Collector - A**

SIGNA Artist 1.5T Cable Collector - A

Line	Qty.	Catalog	
8.	**1.00**	**M7007YS**	**Artist Gradient Cables Config A**

Artist Gradient Cables Config A

Line	Qty.	Catalog	
9.	**1.00**	**M7000ZA**	**Main Disconnect Panel**

The Main Disconnect Panel safeguards the MR system's critical electrical components, by providing complete power distribution and emergency-off control.

Line	Qty.	Catalog	
10.	**1.00**	**M3335JZ**	**English Keyboard**

Required for our operator console. This keyboard is ergonomically designed to keep your staff comfortable even through the longest shifts. The scan control keyboard assembly has an intercom speaker, microphone, volume controls and emergency stop switch.

Line	Qty.	Catalog	
11.	**1.00**	**R32052AC**	**Standard Service License**

The Standard Service License provides access to service tools used to perform basic level service on the Equipment and is included at no charge for the warranty period.

Line	Qty.	Catalog	
12.	**1.00**	**M7110NB**	**SIGNA™ ARTIST 1.5T TDI COILS SUITE AND PATIENT TABLE (HNU,**

PA, AA, T/R Head)

The SIGNA™ Artist coil suite is designed to enhance patient comfort and image quality while simplifying workflow. The suite includes:

• Integrated T/R Body Coil
• T/R Head Coil
• TDI Posterior Array
• TDI Head-Neck Unit with Comfort Tilt
• TDI Anterior Array

The TDI Posterior Array is designed to provide optimal element geometry for each targeted anatomy by using different element geometries for the cervical-to-thoracic spine transition, thoracic and lumbar spine, and the body. The PA coil is designed to be used in conjunction with the HNU, Anterior Array and the PV Array (sold separately). The PA coil is embedded in the Express detachable table and is invisible to additional surface coils when they are placed directly on top of the surface.

• Elements: 40
• Length: 100 cm; Width: 40cm
• S/I coverage: 100cm head-first or feet-first
• Parallel imaging in all three scan planes
• Head-first or feet-first positioning

The TDI Head and Neck Unit comprises the baseplate and three anatomically optimized anterior arrays: the anterior Neuro-vascular array, the anterior cervical spine array, the anterior open-face array. The HNU may be positioned at either end of the Express table to support head-first or feet-first imaging and may remain in place for all body, vascular, spine, and most MSK exams. The HNU baseplate supports the patient's head, and the Comfort Tilt variable-degree ramp can be positioned under the HNU base plate to elevate the coil to match the patient's head and neck position.

• Elements: up to 28 combined with PA and AA
• Length: 49.5 cm; Width: 38.8 cm
• Height with NV Array: 36.8 cm
• Height with Cervical Array: 33.6 cm
• Height with Open Array: 25.7 cm
• S/I coverage: up to 50 cm with PA and AA
• Parallel imaging in all three scan planes
• Head-first or feet-first positioning

The TDI Anterior Array is designed to provide extended anatomical coverage and can be used in conjunction with the HNU, Anterior Array and the PV Array (sold separately).

• Elements: up to 36 combined with PA
• Length: 55.6 cm; Width: 67.4 cm
• Height: 3.3 cm
• S/I coverage: up to 54 cm
• R/L coverage: up to 50 cm
• Parallel imaging in all three scan planes
• Head-first or feet-first positioning

EXPRESS DETACHABLE TABLE

SIGNA™ Artist eXpress Patient Table is a crucial part of AIR™ Workflow. The eXpress table is a mobile patient transport device that houses the TDI Posterior RF Array and touch sensitive IntelliTouch land-marking. The fully detachable table is easily docked and undocked by a single operator and moved in and out of the exam room for patient transport and preparation. The eXpress table and embedded PA coil are designed to accommodate head-first or feet-first imaging for all supported exams.

• Maximum patient weight for scanning: 500 lbs
• Maximum patient weight mobile: 500 lbs
• Maximum patient weight for lift: 500 lbs
• 205 cm symmetrical scan range
• Automated vertical and longitudinal power drive
• Fast longitudinal speed: 30 cm/second

• Slow longitudinal speed: 0.5 cm/second
• Integrated arm boards & non-ferrous IV pole
• IntelliTouch & laser land-marking
• Laser alignment land-marking

Line	Qty.	Catalog	
13.	**1.00**	**M7001NL**	**1.5T 16-Channel T/R Knee Array**

The 1.5T 16-channel Knee Array is a transmit/receive coil that produces high resolution images of the knee and is optimized for parallel imaging in all three directions to reduce acquisition times.

Line	Qty.	Catalog	
14.	**1.00**	**M7006YD**	**1.5T AIR™ Multi-Purpose Coil Medium with Positioners**

A package includes 1.5T AIR™ Multi-Purpose (MP) Coil Medium with a coil positioner kit.

The 20-channel 1.5T AIR Multi-purpose (MP) Medium is the next generation multipurpose coil that allow flexibility in any direction to conform to the patient's anatomy. Based on the innovative AIR™ Coil technologies, the 1.5T AIR MP Medium provides good image quality and acceleration performance, while improving the overall patient and user experience. The coil has been designed to adapt various patient shapes and sizes, expanding positioning versatility. AIR™ MP Coil Medium is recommended to be used for Wrist, Elbow, Cardiac.

The AIR™ MP Coil positioner kit includes a knee positioner, a foot-ankle positioner, a wedge pad, a u-shaped pad and a strap kit. Those are compatible with both AIR™ MP Coils Large and Medium for positioning.

Line	Qty.	Catalog	
15.	**1.00**	**E8800XA**	**NeoCoil Sentinel G1 Wireless Music System for MRI Systems**

The NeoCoil Wireless Audio/Music system provides audio entertainment and facilitates communications between the patient and technologist. Wireless solution eliminates multiple cords and standard 3.5mm audio jack allows any compatible music source.
Integrates audio entertainment, the technologist's voice, and AutoVoice for optimum patient communication
MR Conditional wireless audio system for use with high field MRI up to 3.0T
Dramatically attenuates gradient noise
When the technologist uses the intercom or when the feature AutoVoice is used, the music is interrupted for clear communication
Wireless solution operates on 3 batteries

Package includes:
Wireless 29dB headphones (over-ear)...uses 2 battery packs
Wireless airtube/earbud assembly (in-ear)…uses 1 battery pack
Disposable 29dB earbud inserts, 125 pair (250/box)
Battery charging dock (can wall mount or desk; charges up to 4 batteries in under 6 hours)
Audio cable, 3.5mm
(3) Individual Li-Po 3.7V Battery Packs (rated for 12 hours continuous use)
Transmitter and console interface - wall-mounted transmitter including couplers for penetration panel (2.4 GHz ISM band)
Audio Source - Amazon® Fire® tablet, tablet stand, tablet lock, and (2) speakers

GE MRI compatibility:
Compatible with all MRI systems including Creator/Explorer v25.3 and Pioneer hardware v26.1

Line	Qty.	Catalog	
16.	**1.00**	**E8800XH**	**Neocoil Individual battery packNeoCoil Individual Li-Po 3.7V Battery Pack for Sentinel G1**

• Removable battery pack for use with NeoCoil wireless system
• Rechargeable Li-Po 3.7 V
• 1000 mAh
• 12 hours of continuous use
• Complete system (E8800XA and E8800XK) already includes this item
• Expected life of approximately 1 year

Line	Qty.	Catalog	
17.	**1.00**	**E8911CG**	**Manual Cryogen Compressor Water Bypass**

GE MR Heat Exchanger Manual Cryogen Compressor Water Bypass Option

Add a level of magnet protection with a Manual Cryogen Compressor Bypass. In case of a power failure, you can cycle municipal or facility water through the cryogen compressor and reduce cryogen loss and reduce the likelihood of quenching.

FEATURES AND BENEFITS
• Easy to install and simple to use
• Helps switch over water supply to your cryogen compressor in the event of loss of power to reduce cryogen loss
• Includes fluid supply pressure gauge, temperature gauge and flow rate meter for easy verification of operation
• Manual operation reduces unintentional switch-overs and coolant dumping during brown-outs and supply power glitches

COMPATIBILITY
Must be used with a GE MR Heat Exchanger:
• E8911CA
• E8911CB
• E8911CC
• E8911CD
• E8912CA
• E8912CB
• E8912CC
• E8912CD NOTE: Item is NON-RETURNABLE and NON-REFUNDABLE

Line	Qty.	Catalog	
18.	**1.00**	**W0303MR**	**TIP MR Software Upgrade Training**

This training program is designed for customers purchasing an Advanced Software upgrade to a GEHC MR system. GEHC will work with the designated Customer contact to agree upon a reasonable training schedule for a pre-defined group of core technologists that will leverage blended content delivery and may include a combination of onsite days and virtual offerings, to include TiP Virtual Assist, the GEHC Answerline and available on-demand courses ("Virtual Inclusions"). This blended curriculum with multiple delivery platforms promotes learner retention and allows for an efficient and effective skill development.

This program may contain:
• Onsite training (generally 6 days)
• Virtual Inclusions may include:
• Remote instructor-led training: Instructor leads a remote training session one-on-one or in a group, typically for 1 hour
• Answerline Support-Access to GEHC experts for clinical, non-emergency applications assistance via phone or by using the iLinq button on the imaging console
• Tip Virtual Assist-Direct interactive access to a GEHC expert for enhanced support.
• On Demand courses-On healthcare learning system. Self-paced courses and webinars (CE and non-CE).

Training will be delivered at a mutually agreed upon time between the customer and GE Healthcare (excluding GE Healthcare holidays and weekends), are subject to availability and generally will not exceed 8 days. This training program has a term of twelve (12) months commencing on Acceptance, where all onsite training must be scheduled and completed within twelve (12) months of Acceptance and all Virtual Inclusions also expire at the end of such twelve (12) month period. Additional onsite days may be available for purchase separately.

All GEHC "Training" terms and conditions apply. Given the unique nature of this program, if this program is purchased as part of a purchase under a Governing Agreement, including any Master Purchase Agreement, Group Purchasing Organization Agreement, or Strategic Alliance Agreement, this program shall take precedence over any conflicting training deliverables set forth therein.

Total Quote Net Selling Price:	***$1,277,641.28***
Logistics Surcharge: %	***1.75%***
Logistics Surcharge Amount:	***$22,358.72***
Total Amount with Logistics Surcharge:	***$1,300,000.00***

If applicable, for more information on this devices' operating system, please visit GE Healthcare's product security portal at: https://securityupdate.gehealthcare.com/en/products

GPO Agreement Reference Information

Customer:	Atrium Health Cleveland
Contract Number:	CSS-GEHC MVA July 15 2011 a/k/a CSS-EQ-0031
Billing Terms:	100% billing at Ship Completion (Fulfillment) / Delivery
Payment Terms:	Net Due in 60 Days
Shipping Terms	FOB DESTINATION

Offer subject to the Terms and Conditions of the applicable Group Purchasing Agreements currently in effect between GE Healthcare and CSS-GEHC MVA July 15 2011 a/k/a CSS-EQ-0031

If applicable, for more information on this devices' operating system, please visit GE Healthcare's product security portal at: https://securityupdate.gehealthcare.com/en/products

Attachment D

PROPOSED TOTAL CAPITAL COST OF PROJECT **Updated 8/31/2021**

Project Name: Atrium Health Cleveland MRI Equipment Replacement

Provider/Company: Atrium Health

1	Purchase price of land	N/A
2	Closing costs	N/A
3	Site Preparation	
4	Construction/Renovation Contract	$1,095,248.00
5	Landscaping	N/A
6	Architect/Engineering Fees	$173,140.00
7	Medical Equipment	$1,399,614.00
8	Non Medical Equipment	N/A
9	Furniture	$11,000
10	Consultant Fees (CON Fees, Legal Fees)	N/A
11	Financing Costs	N/A
12	Interest During Construction	N/A
13	Other (IS, Security, Internal Allocation)	$239,504
14	**Total Capital Cost**	**$2,918,506.00**

I certify that, to the best of my knowledge, the above construction related costs of the proposed project named above are complete and correct.

Michael D. Rowell

(Signature of Licensed Architect or Engineer) *DATE:* August 31,2021

Sales taxes have been included in these equipment costs. However, because Atrium Health is entitled to a sales tax refund under N.C. Gen. Stat. § 105-164.14(b) and 105-467, the sales tax that Atrium Health initially incurs for this medical equipment purchase will be refunded to Atrium Health, and thus will reduce the capital costs that Atrium Health actually incurs for the equipment by **$94,613.00**.

Attachment E

State of North Carolina

Department Of Health and Human Services
Division Of Facility Services
Certificate Of Need

FID# 953106

Project Identification Number C-5725-97 Effective Date September 25, 1998

Issued to: Cleveland Memorial Hospital, Inc.
201 Grover Street
Shelby, NC 28150

The North Carolina Department of Health and Human Services, pursuant to the North Carolina Health Planning and Resource Development Act of 1978, G.S. § 131-175, et seq., as amended and recodified, G.S. § 131E-175, et seq., hereby finds and certifies that the new institutional health service proposed by the person listed above is consistent with, or as conditioned is consisted with the plans, standards, and criteria prescribed by the Act and the rules and regulations promulgated thereunder. The findings of the Department are attached hereto and incorporated by reference.

This Certificate affords the person listed above the opportunity to proceed with development of the proposed new institutional health service in a manner consistent with the plans, standards, and criteria prescribed by the Act and the rules and regulations promulgated thereunder. This Certificate includes and is limited to:

SCOPE: Construct an addition to the hospital for a 1.5 Tesla MRI scanner and renovate portions of the Department of Radiology/Cleveland County

CONDITIONS: See Reverse Side

PHYSICAL LOCATION: Cleveland Memorial Hospital, Inc.
201 Grover Street
Shelby, NC 28150

MAXIMUM CAPITAL EXPENDITURE: $4,128,953

TIMETABLE: See Attached

FIRST PROGRESS REPORT DUE: January 1, 1999

This Certificate is limited to the person listed above and is not transferable or assignable. This Certificate may be withdrawn as provided in G.S. § 131E-189, and the rules and regulations promulgated thereunder.

Issuance of this Certificate does not supplant provisions or requirements embodied in codes, ordinances, statutes other than G.S. § 131E-175, et seq., rules regulations or guidelines administered or enforced by municipal, state or federal agencies or the agent thereof.

Lee B. Hoffman by Cbac
Chief, Certificate of Need Section
Division of Facility Services

EXHIBIT A
PROJECT ID NO. C-5725-97

Conditions, etc for CRMC MRI Settlement

Scope: Construct an addition to the hospital for a 1.5 Tesla MRI scanner and renovate portions of the Department of Radiology.

Conditions:

1. CRMC shall materially comply with all representations made in its certificate of need application except as modified by the supplemental information provided by CRMC as part of the settlement agreement.

2. CRMC shall provide documentation from physicians expressing their support of the project and their intent to comply with all relevant criteria and standards.

3. The approved capital expenditure for this project is $4,123,953

North Carolina Department of Health and Human Services
Division of Health Service Regulation

Pat McCrory
Governor

Aldona Z. Wos, M.D.
Ambassador (Ret.)
Secretary DHHS

Drexdal Pratt
Division Director

December 12, 2014

Gary S. Qualls
PO Box 14210
Research Triangle Park, NC 27709-4210

Exempt from Review – Acquisition of Facility

Facility:	Cleveland Regional Medical Center
Type of Facility:	Acute Care Hospital
Acquisition by:	The Charlotte-Mecklenburg Hospital Authority
County:	Cleveland
FID #:	953106

Dear Mr. Qualls:

In response to your letters of November 5, 2014 and December 11, 2014, the above referenced proposal is exempt from certificate of need review in accordance with G.S 131E-184(a)(8). Therefore, The Charlotte-Mecklenburg Hospital Authority may proceed to acquire the above referenced health service facility without first obtaining a certificate of need. However, you need to contact the Acute and Home Care Licensure and Certification Section of the Division of Health Service Regulation to obtain instructions for changing ownership of the existing facility. Note that pursuant to G.S. 131E-181(b): "*A recipient of a certificate of need, or any person who may subsequently acquire, in any manner whatsoever permitted by law, the service for which that certificate of need was issued, is required to materially comply with the representations made in its application for that certificate of need.*"

It should be noted that this Agency's position is based solely on the facts represented by you and that any change in facts as represented would require further consideration by this Agency and a separate determination. If you have any questions concerning this matter, please feel free to contact this office.

Sincerely,

Julie Halatek

Julie Halatek
Project Analyst

Martha J. Frisone

Martha J. Frisone, Interim Chief
Certificate of Need Section

cc: Medical Facilities Planning Branch, DHSR
Acute and Home Care Licensure and Certification Section, DHSR

Certificate of Need Section
www.ncdhhs.gov
Telephone: 919-855-3873 • Fax: 919-733-8139
Location: Edgerton Building • 809 Ruggles Drive • Raleigh, NC 27603
Mailing Address: 2704 Mail Service Center •Raleigh, NC 27699-2704
An Equal Opportunity/ Affirmative Action Employer

Attachment F

TOMORROW TODAY

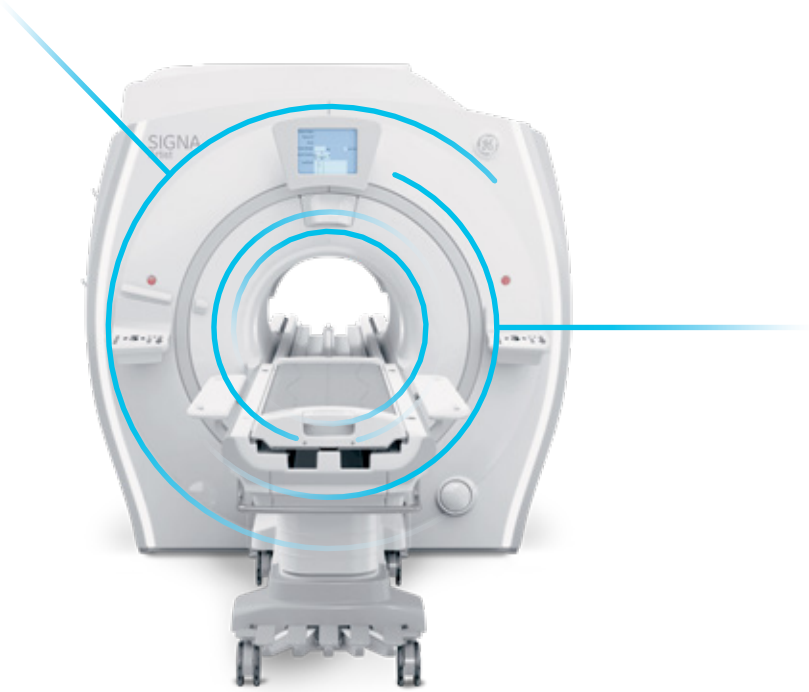
SIGNA™ Artist

AIR™ Edition

gehealthcare.com/mr

A masterful balance of comfort and productivity

Designed with both patients and providers in mind, the SIGNA™ Artist AIR™ Edition, GE Healthcare's premium 1.5T MR system, leverages intelligent scanning technology to enable comfortable, patient-friendly exams with optimal image quality in less time. The SIGNA™ Artist provides feet-first imaging and 360 degrees of coil coverage to accommodate all types of scans and patient sizes, helping to reduce patients' table time by 37%. From plan to scan, your practice will appreciate the system's versatility – delivering consistent image quality, while improving exam setup productivity by 59%.



AIR™

A simply better MR experience

The AIR™ family of products delivers clinical versatility, intelligent productivity improvements and consistently superior image quality.

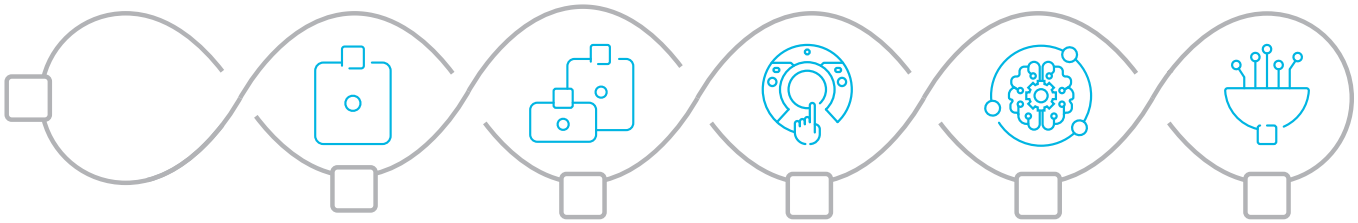
AIR™ Coils

Clinical versatility and comfort

Awarded Best New Radiology Device of 2019, AIR™ Coils are the foundation of a simply better MR experience. The engineering breakthrough at the heart of our AIR™ Coils allowed us to create a revolutionary coil design that is lighter, offers more flexibility and provides greater coverage, laying the groundwork for greater positioning freedom and a comfortable patient experience.

- **AIR™ Anterior Array Coil** – Scan the chest, abdomen and pelvis without repositioning the coil.
- **AIR™ Multi-Purpose Coils*** – Easy ortho, body and cardiac scans with medium and large sizes.

** Not yet CE marked. Not available for sale in all regions.*

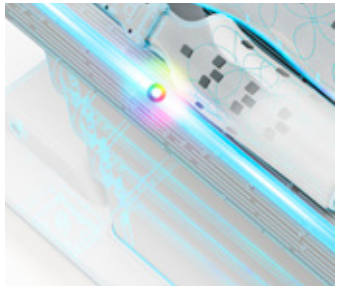


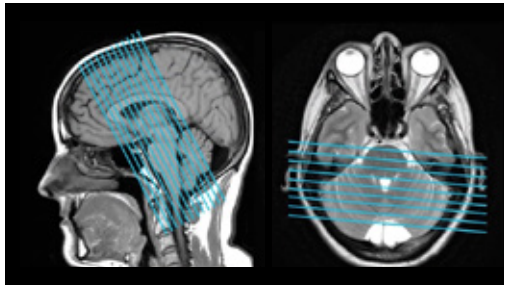
AIR™ Workflow

Intelligent productivity improvements

Enhance your MR productivity with intelligent workflow applications developed to optimize your scans. AIR™ Workflow helps you accelerate scan times, increase diagnostic confidence across skill levels and consistently deliver accurate results. Automated applications, AIR Touch™ and AIR x™, make a clinically impactful difference for a simply better workflow.

- **AIR Touch™** – Smart coil selection that automatically knows the best combination for every patient. With AIR Touch™, you simply use IntelliTouch™, GE's 1-touch landmarking tool, to activate an optimized set of coils that is selected based on the patient's anatomy.
- **AIR x™** – Intelligent MR slice prescription for routine and challenging neurological exams. Powered by a deep-learning algorithm created from a database of 36,000 images, AIR x™ automatically detects anatomy and prescribes slices in the brain.



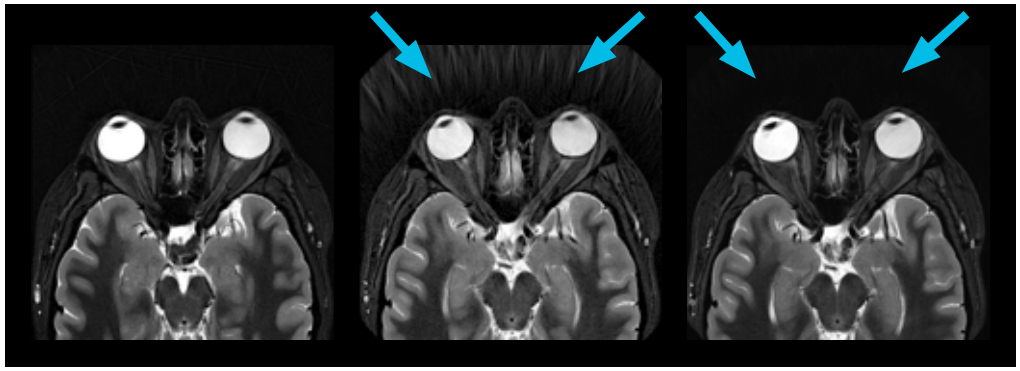


AIR™ Image Quality

Consistently superior image quality

AIR™ Image Quality completes the AIR™ family of products with image reconstruction software that reduces background noise and out-of-FOV artifacts. It helps improve signal-to-noise in every image without having to overcompensate in your scanning protocol.

- **AIR™ Recon** – Makes exceptional and consistent image quality in faster scan times the new standard for MR imaging.



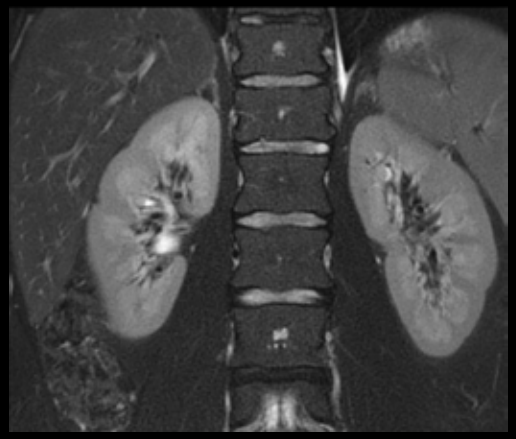
Before
Axial T2 STIR PROPELLER
0.5 x 0.5 x 2.5 mm
4:33 min
1.7 No Phase Wrap

Before
Axial T2 STIR PROPELLER
0.5 x 0.5 x 2.5 mm
3:33 min
1.3 No Phase Wrap

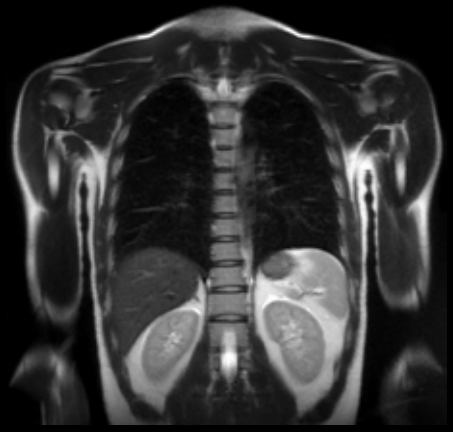
Using SIGNA™Works AIR™ Edition
Axial T2 STIR PROPELLER
0.5 x 0.5 x 2.5 mm
3:33 min
1.3 No Phase Wrap with AIR™ Recon

AIR™ Anterior Array Coil

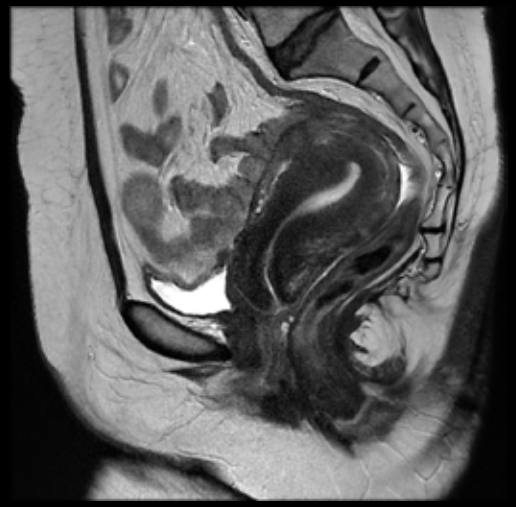
Industry-leading flexibility allows you to scan the chest, abdomen and pelvis without repositioning the coil.



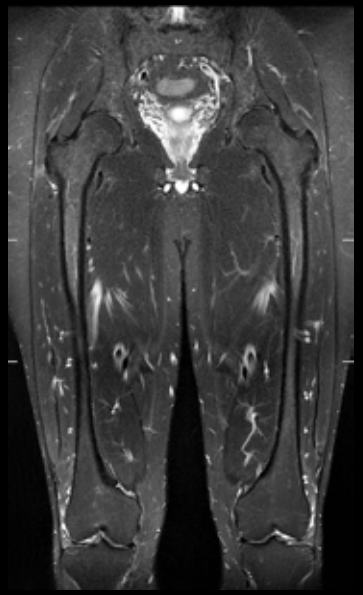
Coronal T2 PROPELLER FatSat
Free-breathing with Auto Navigator
0.8 x 0.8 x 4.0 mm



Coronal, 55 cm FOV, 24 sec.
21ch Head/Neck Unit + 30ch AIR™ Anterior Array Coil + 40ch Posterior Array



Sagittal T2 PROPELLER
0.7 x 0.7 x 3.5 mm

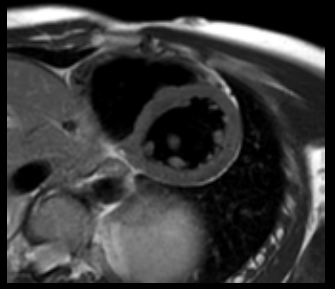


Coronal STIR
56 cm FOV
2 stations

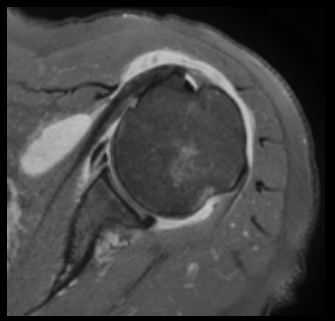
AIR™ Multi-Purpose Coils*

Easily perform ortho, body and cardiac scans with medium and large sizes.

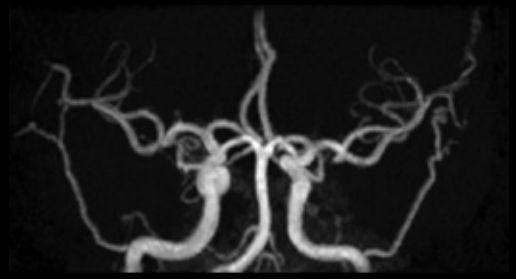
Coronal PD FatSat
0.4 x 0.6 x 3 mm



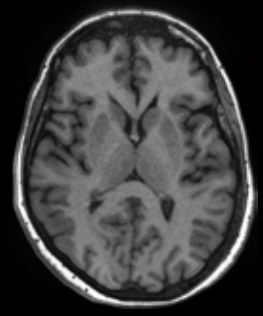
Short Axis T2 Double IR
1.2 x 1.4 x 10 mm



Axial PD FatSat
0.4 x 0.6 x 3 mm



Axial 3D TOF with HyperSense
0.56 x 0.56 x 1 mm
2:47 min.



Axial 3D T1 BRAVO
1 x 1 x 1.2 mm
3:19 min.

** Not yet CE marked. Not available for sale in all regions.*

SIGNA™ Works AIR™ Edition

Exceptional versatility, productivity and image quality

Imagine a software package that can help you do more with less. This is the goal of SIGNA™Works AIR™ Edition, GE's latest software release, which introduces simply better technologies and improvements to your MR scanner. Whether it's simplifying scan setup, accelerating image acquisition or improving patient comfort, AIR™ packs innovations that deliver versatility, productivity and consistent quality to all customers.

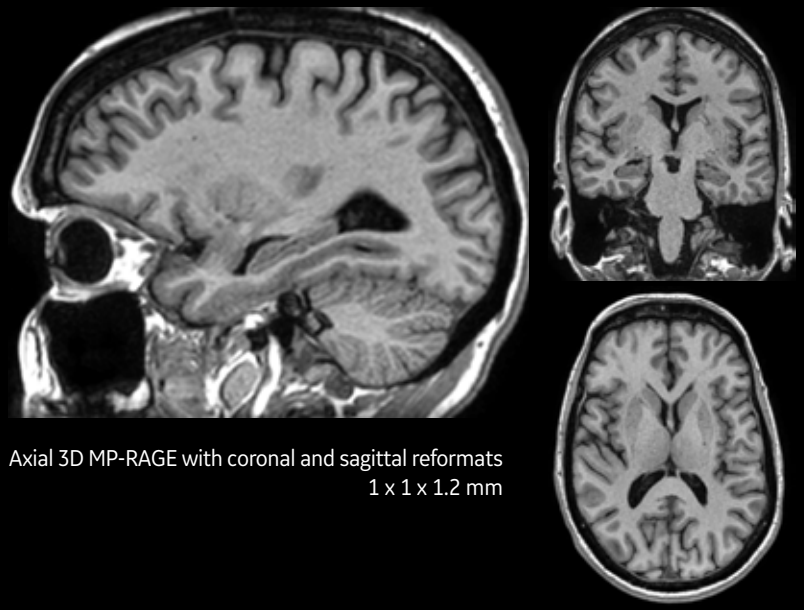
In addition, this release brings new applications along with enhancements to existing applications with the goal of empowering any technologist to easily deliver images with remarkable clarity.

NeuroWorks

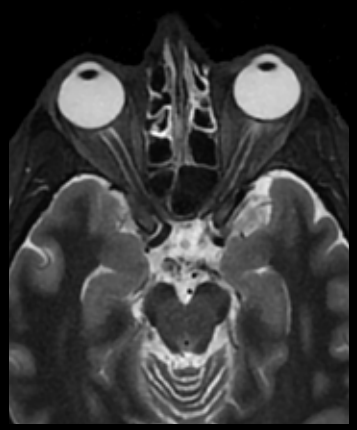
This one-stop solution enables you to image brain, spine and vascular anatomy with exceptional tissue contrast. These motion-insensitive techniques feature single-click auto alignment, providing the complete neuro solution from scanning to post processing.

Suppress CSF and either white or grey matter to increase lesion conspicuity with Cube, our 3D volumetric imaging suite.

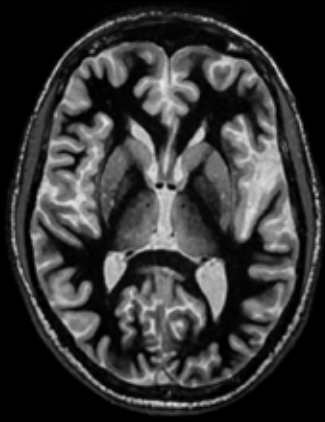
Preserve tissue contrast, both in T1 and T2 scans, while also reducing motion artifacts with PROPELLER MB.



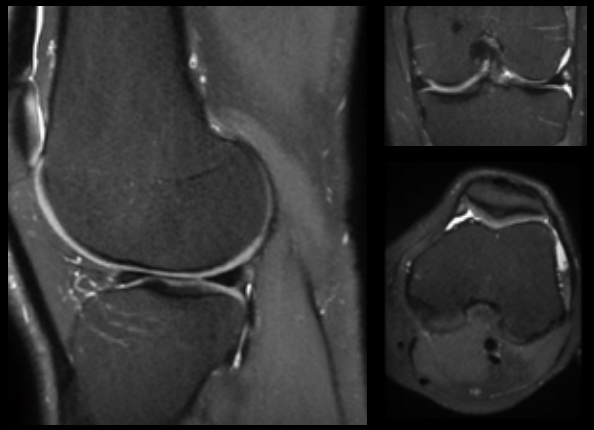
Axial 3D MP-RAGE with coronal and sagittal reformats
1 x 1 x 1.2 mm



T2 STIR PROPELLER
Axial 0.77 x 0.77 x 2 mm



3D BRAVO
White matter nulling



Cube PD FatSat
0.6 x 0.6 x 0.6 mm
HyperSense* 2 x 2 x 1.5
4:29 min.

Coronal PD PROPELLER
0.4 x 0.4 x 3 mm

OrthoWorks

This extensive library of musculoskeletal imaging techniques enables you to image bone, joint and soft tissue with remarkable tissue contrast.

Cube, combined with ASPIR, produces proton-density 3D images with improved fat suppression uniformity.

With one 3D acquisition and multi-planar reformats, Cube may replace individual 2D scans.

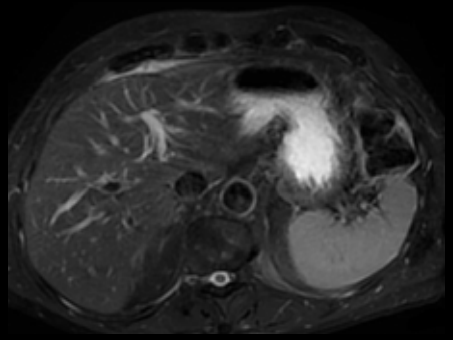
** Purchasable option.*

BodyWorks

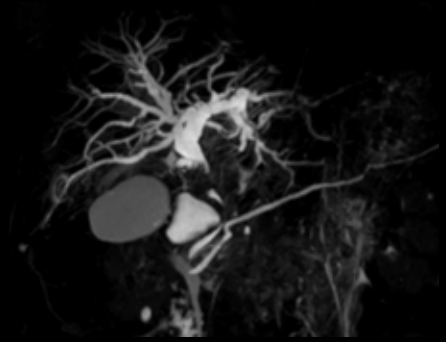
Scan whole-body, abdominal and pelvic anatomy with speed and flexibility to adapt to different patient types.

Reduce respiratory motion for more accurate abdominal imaging with Auto Navigator. This free-breathing approach is compatible with multiple pulse sequences including diffusion, PROPELLER MB, MRCP and dynamic multi-phase T1 imaging.

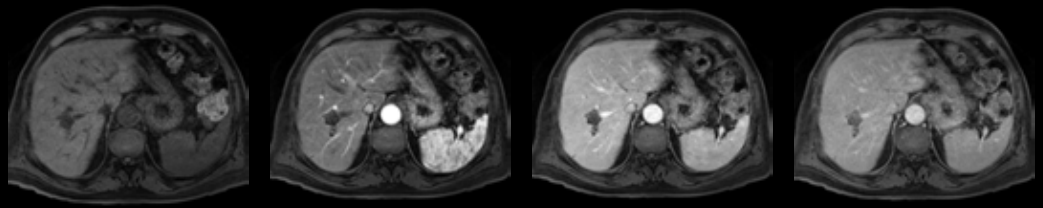
Coronal T2 SSFSE
Large FOV



Axial T2 FatSat PROPELLER free-breathing with Auto Navigator



3D MRCP Navigated with HyperSense*
0.9 x 0.9 x 1.8 mm
3:15 min.

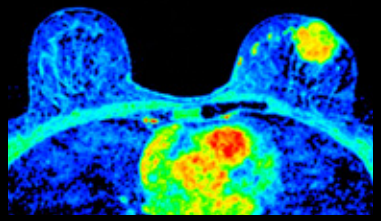


Axial LAVA
Free-breathing with Auto Navigator
1.4 x 2.2 x 4.4 mm

OncoWorks

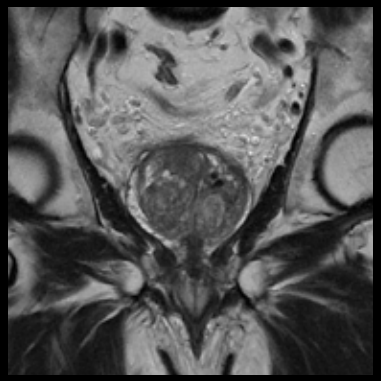
This extensive library of techniques captures anatomic data to uniquely enable oncological assessment of the anatomy. OncoWorks includes diffusion techniques, robust tissue contrast and motion-insensitive, high temporal and spatial resolution imaging.

3D volumetric imaging with an optimized adiabatic fat suppression, combined with ARC or ASSET, provides high spatial and temporal resolution capture contrast uptake patterns.

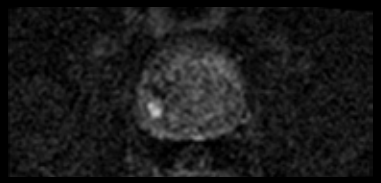


Axial T1 Dynamic Contrast
Positive Enhancement
Integral Map

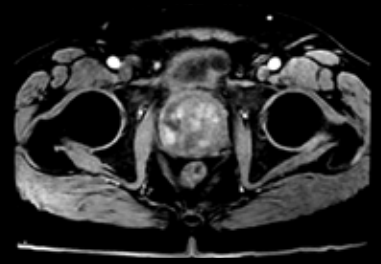
Whole-body
Coronal LAVA Flex
T1 water image



Coronal T2 PROPELLER
0.6 x 0.6 x 4 mm
Small FOV and motion-correction



DWI FOCUS* – b1000



3D DISCO* Flex

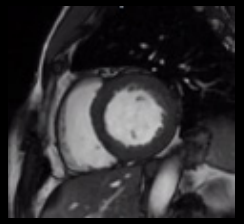
** Purchasable option.*

CVWorks

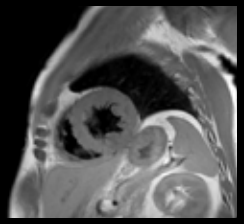
Intuitive cardiac techniques that adapt to different patient types. Assess morphology, flow, function and tissue viability to gain crucial insights into vascular structure and flow dynamics.

Multiple breath-hold imaging is no longer needed with Single Shot MDE and Black Blood techniques, which provide patient-friendly alternatives to uncomfortable breath-holds.

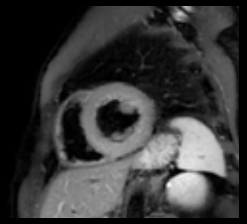
With our workflow-simplified QuickStep protocols, scanning whole body vasculature can be done in less than 6 minutes. High-performance gradients allow bright blood pool and myocardial tissue contrast on FIESTA Cine with high spatial and temporal resolution.



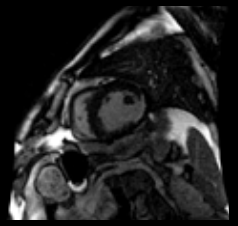
Short Axis 2D
FIESTA Cine



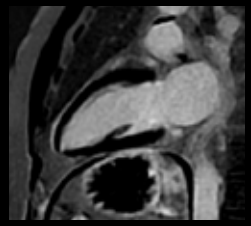
Black Blood T1



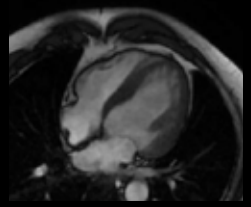
Black Blood SSFSE T2
ASPIR



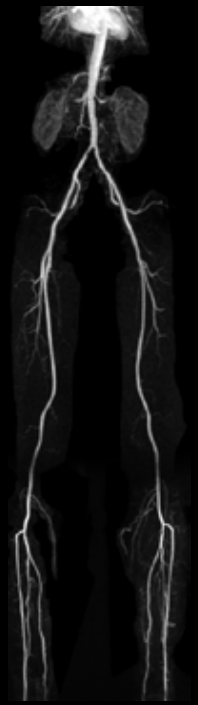
PSIR Single Shot MDE



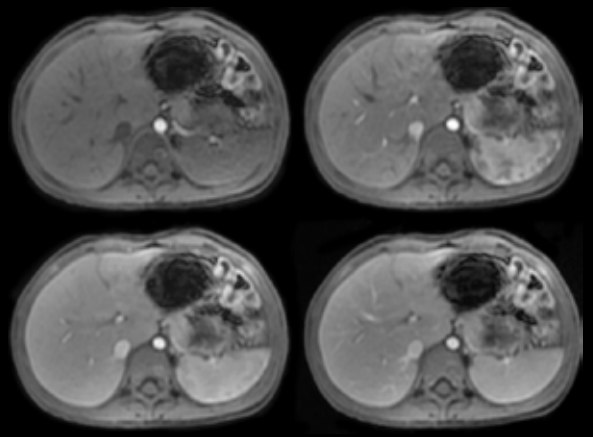
PS MDE



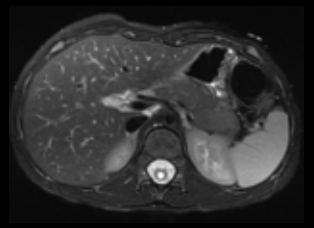
4ch FIESTA Cine



QuickStep MRA



Turbo LAVA with
free-breathing Auto
Navigator Dynamic Liver
1.2 x 1.7 x 2.6 mm
25 sec / phase



Axial T2 FatSat
FOV 24
0.9 x 1.1 x 5 mm

Sagittal T2 frFSE Pasted

PaedWorks

Specialized protocols to simply address the needs of your smallest, most fragile patients. PROPELLER can be combined with Auto Navigator and diffusion imaging for patient-friendly, free-breathing exams.

When it comes to cardiac, Single Shot MDE provides faster and more reliable results.

Images above on the left demonstrate dynamic T1 imaging with Auto Navigator, which enables the patient to breathe freely while capturing dynamic phases. Whole spine evaluation can be obtained simply with routine T2 frFSE imaging.

Broaden your areas of expertise

Take your expertise to the next level when you move beyond the standard with SIGNA™Works innovative applications. Improved image quality, higher efficiency and a more streamlined workflow help you perform better than ever before.

HyperWorks*
HyperWorks means hyper scanning with astonishing imaging and impressive speed. Improve image quality, efficiency and workflow with innovative applications including HyperSense and HyperBand for acceleration, and HyperCube for 3D imaging.

HyperMAVRIC SL* automatically tailors the acquisition to the patient's implant. When used with MAVRIC SL, HyperMAVRIC SL can enable 40% shorter scan times, and as a 3D acquisition, it can provide isotropic resolution that can lead to improved lesion conspicuity.[1]

ViosWorks*
ViosWorks leverages deep learning and the imaging analytic power of the Arterys™ cloud-based platform to precisely visualize and quantify cardiac flow in a single, free-breathing acquisition.

SilentWorks*
Virtually eliminate the acoustic noise of MR across all anatomies without compromising image quality with SilentScan.

ImageWorks*
Boost your overall MR performance with ImageWorks applications. Deliver multiple contrasts in a single scan with MAGiC, reducing scan time by up to 50 percent compared to acquiring all contrasts separately.

MUSE*
MUSE reduces blurring and susceptibility induced distortions compared to conventional parallel imaging techniques while pushing the boundaries of spatial resolution for DWI/DTI imaging.

PROGRES*
Improve diffusion image quality even more with the distortion correction of PROGRES. PROGRES cleans up unwanted distortion artifacts on DWI/DTI images as well as enables up to 300 diffusion tensor directions.

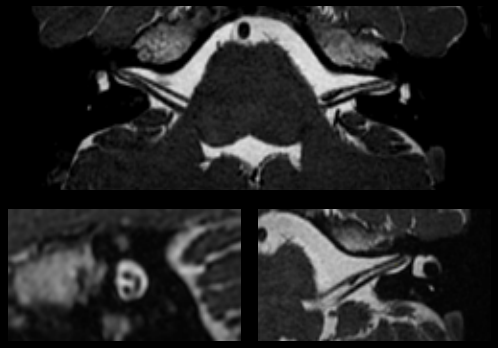
** Purchasable option.*

HyperWorks*

HyperCube

Significantly reduce scan times and minimize artifacts such as motion and aliasing with the expanded 3D imaging capabilities of HyperCube.

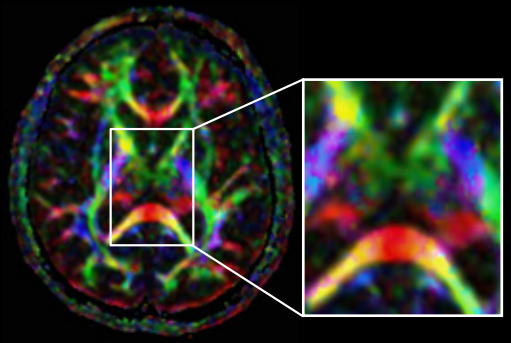
Coronal T2 HyperCube Flex
Brachial Plexus
Water image – MIP
1.2 x 1.2 x 1.4 mm
3:49 min.



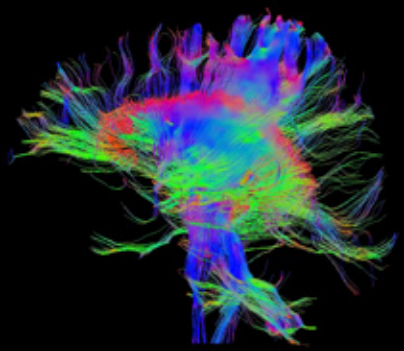
Axial T2 HyperCube IAC with HyperSense
0.6 x 0.6 x 0.8 mm
3:26 min.

HyperBand

HyperBand takes your diffusion to a new level by allowing you to acquire more slices or diffusion directions within a typical scan.



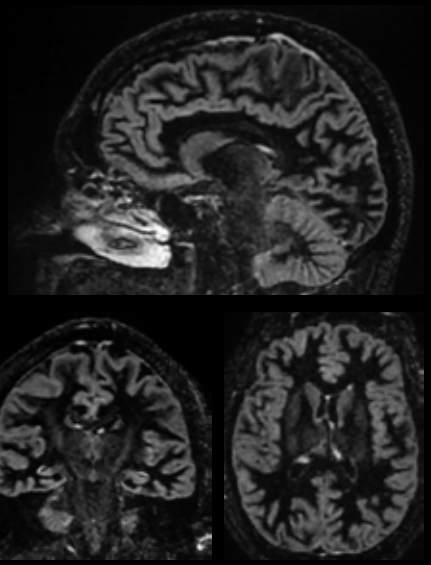
HyperBand colored orientation map



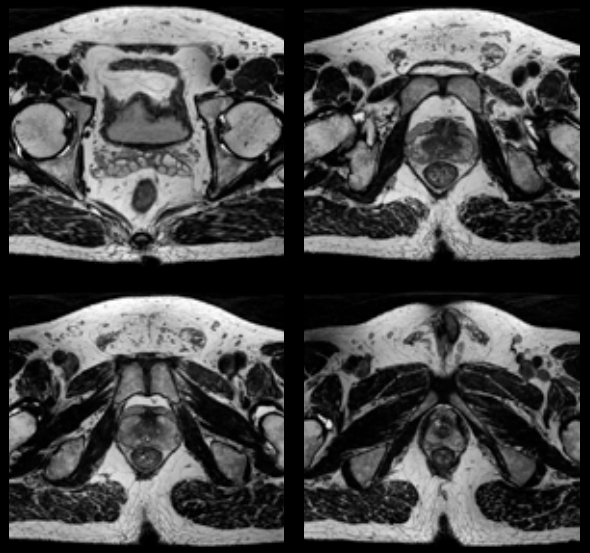
HyperBand DTI

HyperSense

Reduce overall scan times without compromising image quality with HyperSense, which can be used in 88% of all clinical procedures.



Sagittal 3D Cube DIR
with HyperSense
1.3 x 1.3 x 1.4 mm
4:02 min.



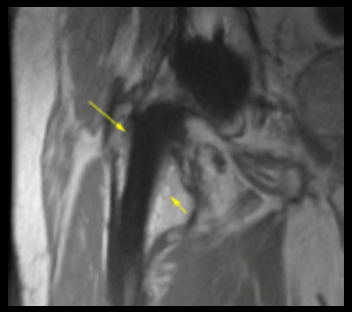
HyperCube T2 with HyperSense
0.7 x 0.7 x 0.7 mm
3:58 min.

Axial 3D TOF COW
with HyperSense
0.7 x 0.8 x 1.0 mm
2:38 min.

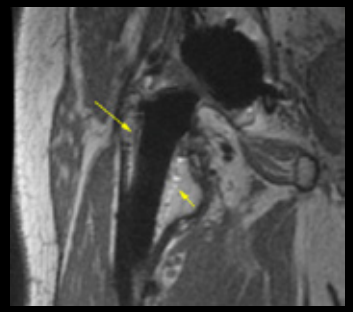
** Purchasable option.*

HyperMAVRIC SL

MAVRIC SL now brings T2-weighting, Flexible No Phase Wrap and an automated-parameter setting for streamlined UI workflow.



MAVRIC SL PD
0.4 x 0.6 x 4 mm



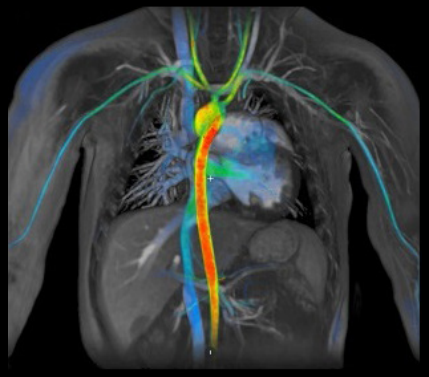
HyperMAVRIC SL PD
1.3 mm isotropic

Fibrous membrane formation in femur that was not appreciated in a conventional acquisition or same scan time.

ViosWorks*

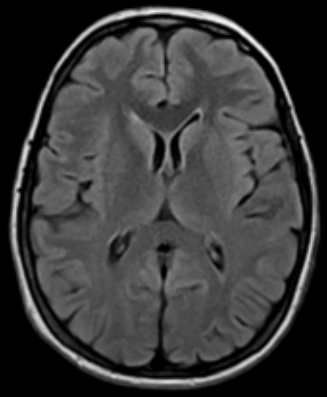
Complete a whole heart functional exam in a non-gated, free-breathing acquisition. ViosWorks 4D Flow accelerates acquisition using HyperKat reconstruction to capture routine clinical information and aid in imaging of complex anatomy.

ViosWorks 4D Flow helps you get functional cine information, along with flow velocity and direction of flow information.

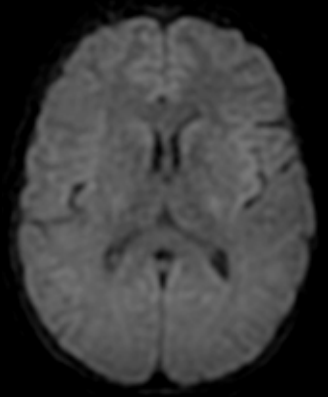


SilentWorks*

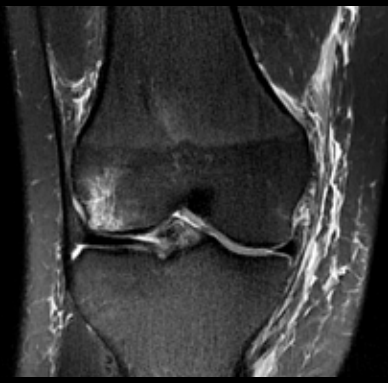
SilentWorks is available across all anatomies and can be done with multiple coils and weightings, including DWI. And with new enhancements like 3D Silenz and PROPELLER MB, your exam time is shortened without compromise.



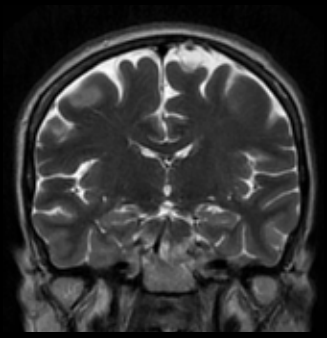
Axial T2 FLAIR
Silent PROPELLER <11 dB
0.9 x 0.9 x 5 mm



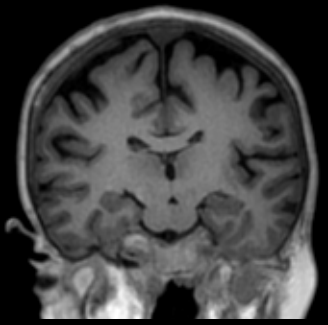
Axial DWI
Silent PROPELLER <11 dB
2.1 x 2.1 x 5 mm



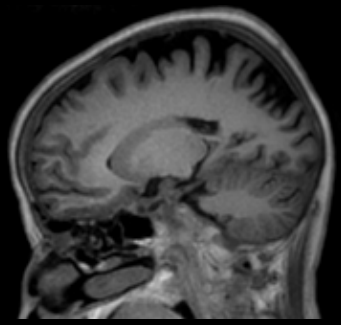
T2 PROPELLER FatSat
Coronal with SilentScan



Coronal T2
Silent PROPELLER <11 dB
0.8 x 0.8 x 4 mm



Coronal reformat
(Sagittal T1 Silenz <3 dB)
1.2 x 1.2 x 1.2 mm

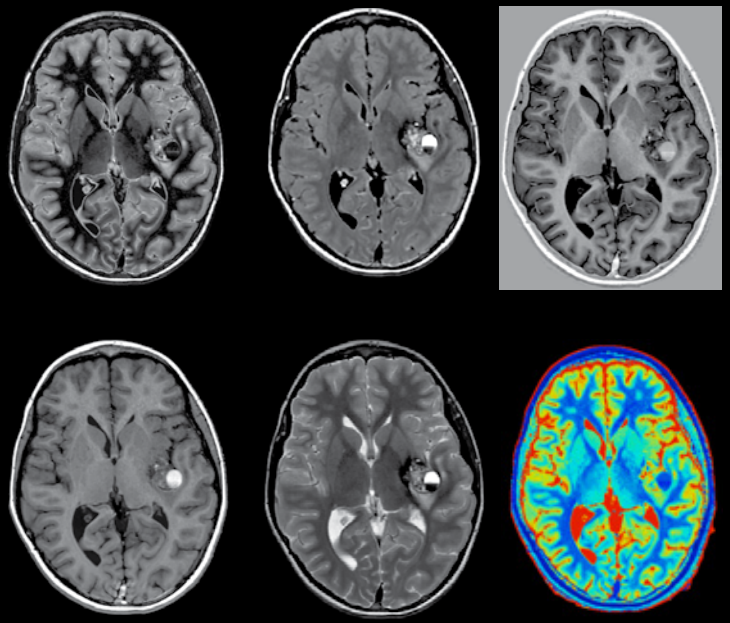


Sagittal T1 Silenz <3 dB
1.2 x 1.2 x 1.2 mm

ImageWorks*

MAGiC

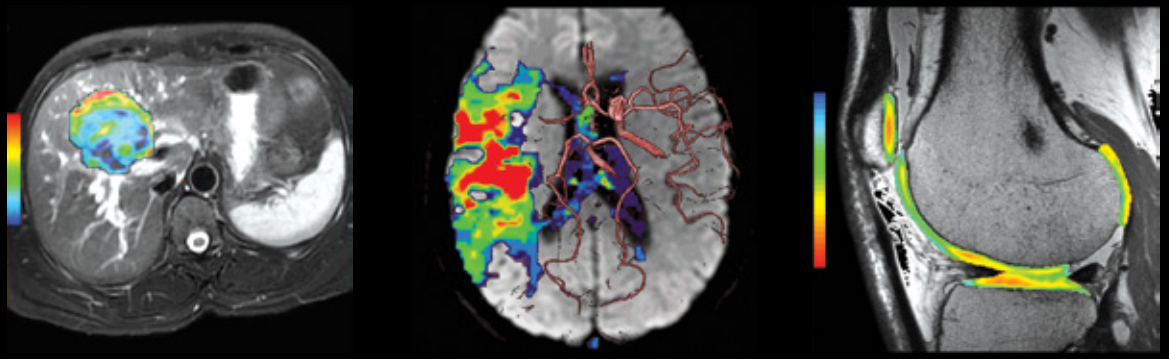
The secret of MAGiC lies in its unique ability to deliver multiple image contrasts in a single neuro scan. MAGiC delivers enhanced clinical flexibility by freeing up time for advanced imaging. MAGiC goes beyond the routine, providing complementary parametric data for a more complete picture. Image contrast can be changed by applying simple adjustments after acquisition.



DIR, FLAIR, PSIR (top), T2, T1 and T2 maps (bottom) were acquired in one scan.

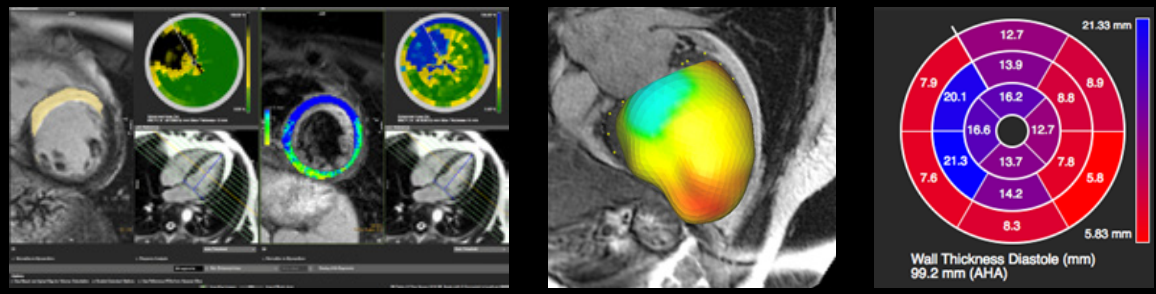
It is recommended to acquire conventional T2 FLAIR images in addition to MAGiC.

** Purchasable option.*



READYView

READYView helps simplify complex exams by providing a visualization platform that gives you access to advanced post processing technology. Being directly available on the MR operator console, READYView accelerates workflow and reading readiness by eliminating time consuming post processing steps.



cvi42®

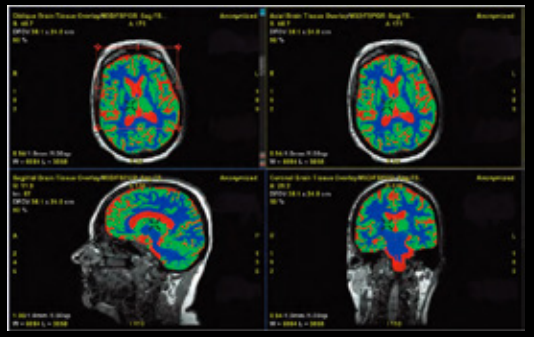
cvi**42**® is a deep-learning based, comprehensive cardiovascular post processing solution that uses automated algorithms to characterize tissue, generate maps, and assess flow and function.

Quantib™ Brain

Quantib™ Brain is a medical imaging processing software using machine learning that is intended for automatic labeling, visualization and volumetric quantification of segmentable brain structures from a set of MR images.

The Quantib™ Brain output consists of segmentations, visualizations and volumetric measurements of grey matter, white matter and cerebrospinal fluid. The output also visualizes and quantifies white matter hyperintensity (WMH) candidates.

The Quantib™ Brain WMH segmentation function can perform a longitudinal analysis on validated WMHs for comparison of multiple exams of an individual patient.

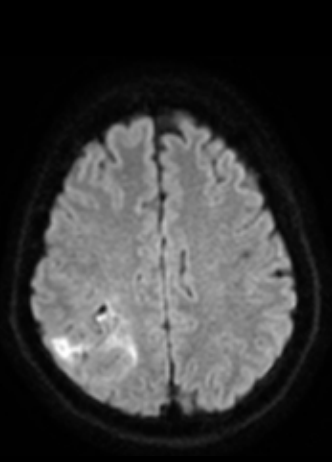


** Purchasable option.*

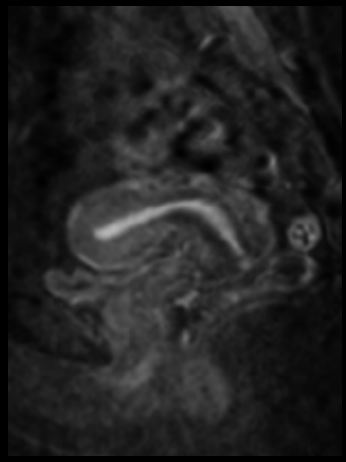
MUSE*

MUSE delivers sharper DWI/DTI images by reducing blurring and susceptibility induced distortions compared to conventional parallel imaging techniques. Use MUSE in areas vulnerable to susceptibility artifacts, such as the brain and prostate.

Coronal MUSE DWI



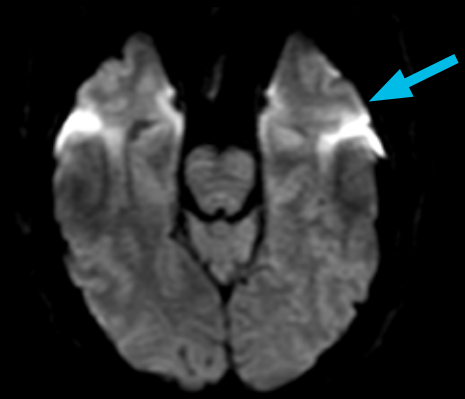
Axial MUSE DWI b1000



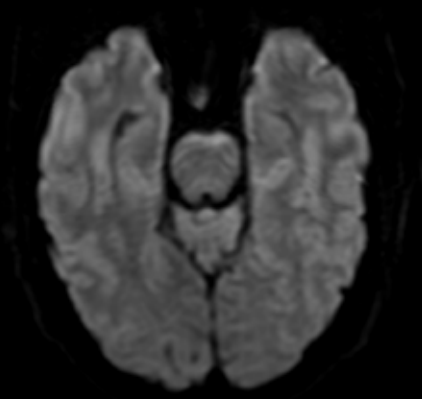
Sagittal MUSE DWI b800

PROGRES*

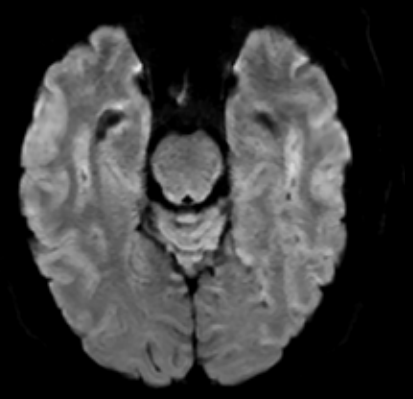
PROGRES, which includes Distortion Correction, addresses distortion in diffusion scans that typically arises from B_0 inhomogeneity and the EPI readout but can also occur less frequently from motion and gradient-related imperfections such as eddy currents.



EPI DWI without PROGRES



EPI DWI with PROGRES



MUSE DWI with PROGRES

MR technology that empowers your performance

Designed to overcome barriers, the SIGNA™ Artist AIR™ Edition's cutting edge platform makes it the most versatile, adaptable and powerful 1.5T system available from GE.

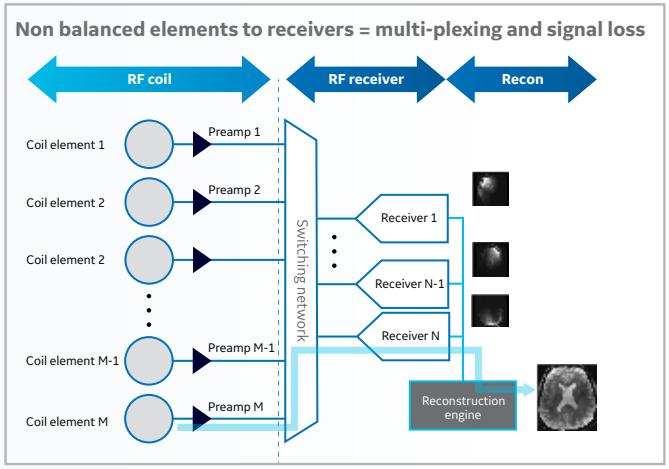
Now feet-first, whole-body coverage is made easy. Dynamic yet insightful, the SIGNA™ Artist is MR built to work for you.

Total Digital Imaging (TDI)

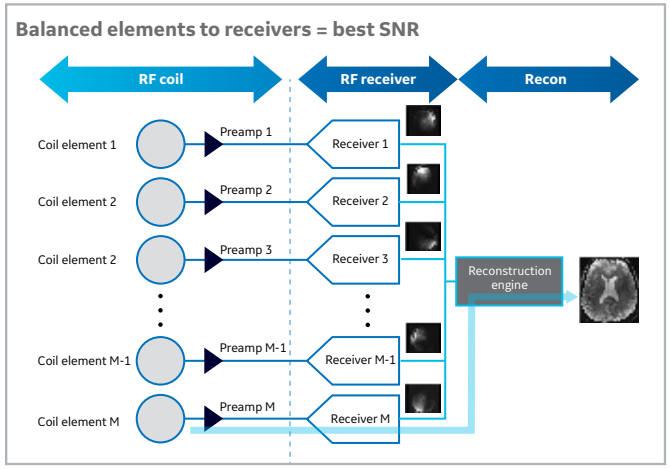
The SIGNA™ Artist AIR™ Edition offers startling advances in imaging and a total imaging win with TDI.

TDI's powerful infrastructure supports the use of AIR™ Coils, redefining clinical excellence with consistent, high-quality imaging.

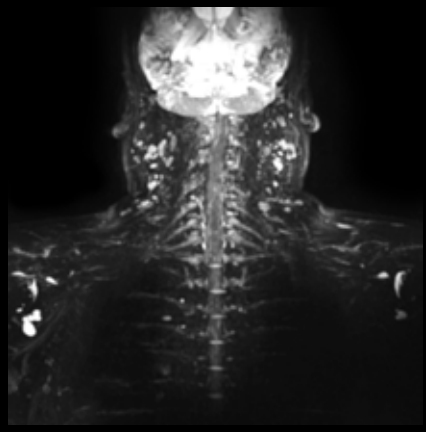
- **Total Digital Imaging (TDI)** employs an independent analog-to-digital converter to digitize inputs from each of up to 128 RF channels, eliminating unnecessary noise enhancement. In other words, every element translates to a digitized signal.
- Designed for higher SNR and uniformity – up to 25% higher SNR.
- **AIR™ Coils**, combined with TDI, allow for an unmatched 88 channels within a single FOV to maximize parallel imaging, resolution and scan time.



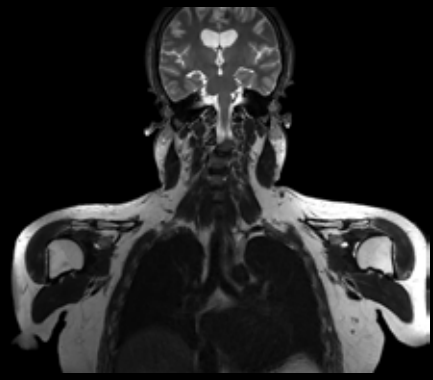
Conventional MR



SIGNA™ Artist AIR™ Edition with TDI



Coronal T2 STIR HyperSense and HyperCube
3x Phase + 1.3x HyperSense Acceleration
1.8 x 1.8 x 1.4 mm



88 channels within FOV
19ch Head/Neck Unit +
(2) 30ch AIR™ Anterior Array Coils +
40ch Posterior Array

We keep your upgrade options open

Get The Works gives you the power of choice in upgrading just your software, upgrading your software and hardware or upgrading to a completely new system built around your existing magnet. Depending on which MR model you have, there may be a couple of options for you. With Get The Works, it is all about making the right equipment upgrade decision easy for your organization.

- **A fraction of the cost** – Up to 50% savings in construction costs vs. a new system install‡
- **Minimize downtime** – The upgrade can be completed in as few as 4-5 days, reducing install time by up to 60%‡

‡ *Results may vary*

You should never compromise between patient comfort and your productivity

And with artificial intelligence (AI) scanning technologies such as AIR x™, cvi**42**® and Quantib Brain, your SIGNA™ Artist brings you the best of both worlds. Experience the masterful balance of patient-friendly exams with optimal image quality in less time.

Maximum comfort and versatility

- 360 degrees of coil coverage accommodating all types of scans and patient sizes
- Feet-first option reduces claustrophobia rejection rate by 90%[2]
- Lightweight eXpress dockable table for fast extraction and improved patient preparation workflow
- Free-breathing for any examination, including dynamic studies as well as compatible needle-free and 2D/3D motion-correction techniques

Consistent image quality

- 80% of cases get improved IQ without added time with AIR™ Recon
- Leverage the highest number of channels within your FOV to boost IQ and productivity

Accuracy and agility

- 59% productivity gain in exam set-up and 37% reduction in table time with AIR Touch™‡
- 5x faster set-up time and 4x fewer mouse clicks with AIR x™‡

The SIGNA™ Artist AIR™ Edition is another way GE Healthcare is bringing you tomorrow's MR today.

‡ Results may vary.

For more information, visit gehealthcare.com/mr or contact your GE Healthcare Sales Representative.

GE Healthcare is a leading global medical technology and digital solutions innovator. GE Healthcare enables clinicians to make faster, more informed decisions through intelligent devices, data analytics, applications and services, supported by its Edison intelligence platform. With over 100 years of healthcare industry experience and around 50,000 employees globally, the company operates at the center of an ecosystem working toward precision health, digitizing healthcare, helping drive productivity and improve outcomes for patients, providers, health systems and researchers around the world. Follow us on Facebook, LinkedIn, Twitter and Insights , or visit our website www.gehealthcare.com for more information.

1 Zochowski, K., Miranda, M., Cheung, J., Argentieri, E., Lin, B., Kaushik, S., Burge, A., Potter, H. and Koff, M., 2019. MRI of Hip Arthroplasties: Comparison of Isotropic Multiacquisition Variable-Resonance Image Combination Selective (MAVRIC SL) Acquisitions With a Conventional MAVRIC SL Acquisition. American Journal of Roentgenology, 213(6), pp.W277-W286.

2 Dewey, M., Schink, T. and Dewey, C., 2007. Claustrophobia during magnetic resonance imaging: Cohort study in over 55,000 patients. Journal of Magnetic Resonance Imaging, 26(5), pp.1322-1327.

JB77915XX

Attachment G

EQUIPMENT COMPARISON – AH Cleveland MRI Replacement

	EXISTING EQUIPMENT	REPLACEMENT EQUIPMENT
Type (e.g., Cardiac Catheterization, Gamma Knife®, Heart-lung bypass machine, Linear Accelerator, Lithotriptor, MRI, PET, Simulator, CT Scanner, etc.)	MRI Scanner	MRI Scanner
Manufacturer	GE	GE
Model name/number	Signa Excite III HD 1.5T	Signa Artist 1.5T
Other method of identifying the equipment (e.g., Serial Number, VIN #)	R798	Not Available Until Installed
Is the equipment mobile or fixed?	Fixed	Fixed
Date of acquisition	2000	2021
Was the existing equipment new or used when acquired? / Is the replacement equipment new or used?	New	New
Total projected capital cost of the project <Attach a signed Projected Capital Cost form>	NA	$2,918,506
Total cost of the equipment	$4,123,953* *Cost of the entire project approved pursuant to CON ID #C-5725-97	$1,394,250
Location of the equipment <Attach a separate sheet for mobile equipment if necessary>	AH Cleveland, First Floor (Room # 1274)	AH Cleveland, First Floor (Room # 1274)
Document that the existing equipment is currently in use	Existing equipment performed 5,273 procedures from Sept. 2020 to Aug. 2021	NA
Will the replacement equipment result in any increase in the **average charge per procedure**?	NA	No
If so, provide the increase as a percent of the current average charge per procedure	NA	NA
Will the replacement equipment result in any increase in the **average operating expense per procedure**?	NA	No
If so, provide the increase as a percent of the current average operating expense per procedure	NA	NA
Type of procedures performed on the existing equipment <Attach a separate sheet if necessary>	MRI procedures for all body parts	NA
Type of procedures the replacement equipment will perform <Attach a separate sheet if necessary>	NA	MRI procedures for all body parts

Attachment H

AH Cleveland MRI Volume by Month	
Month	**Volume**
Sep-20	426
Oct-20	392
Nov-20	406
Dec-20	409
Jan-21	382
Feb-21	420
Mar-21	524
Apr-21	447
May-21	485
Jun-21	506
Jul-21	449
Aug-21	427
Total	5,273

Attachment I

GE Healthcare Technologies

GE Healthcare
PO Box 414
Milwaukee, WI 53187

August 27, 2021

Courtney Dobbelear
Manager, Capital Acquisitions
Materials Resource Management
Atrium Health
Office: 704-512-6282

RE: 1.5T Signa MRI **(SID =** 704487CRMR**)**
Dear Courtney,

Thank you for allowing General Electric Healthcare (GEHC) the opportunity to earn your business. Atrium Health (AH) is a valued customer and we truly appreciate the partnership we share.

The purpose of this letter is to inform you that General Electric Healthcare will be responsible for removing your existing 1.5T GE Signa MRI (SID = 704487CRMR) as part of your upcoming GE MR purchase. AH will be responsible for the cost of any scan room construction, renovation, clearing the rig path, rigging costs, and opening the Lab room access panel. We will work closely with your facilities planning department to insure proper timing of the de-installation. The system will be de-installed, removed, and shipped by our GE team to:

Hegele Logistic, LLC
1001 Mittel Drive
Attn: Brian Kovacs 773-899-4785
Wood Dale, IL 60191
www.atlantisworldwide.com

We understand and confirm that this unit may not be returned to the State of North Carolina without proper authorization from the North Carolina Certificate of Need (CON) section of DHSR.

Thank you again for the opportunity to earn your business. If you have any additional questions, feel free to call me at any time.

Sincerely,

-Herb

Herb Klann
Account Manager, GE Healthcare
Diagnostic & Interventional Imaging

M 724-504-8778
Herb.Klann@GE.com

From:	Lightbourne, Ena
To:	Waller, Martha K
Subject:	FW: [External] Exemption Request for The Charlotte-Mecklenburg Hospital Authority d/b/a Atrium Health Cleveland
Date:	Monday, October 25, 2021 1:18:56 PM
Attachments:	2021 CMHA dba AH Cleveland Exemption Request to Replace Fixed MRI.pdf

…and another one.

From: Huber, Brighid K <Brighid.Huber@atriumhealth.org>
Sent: Monday, October 25, 2021 1:01 PM
To: Hunt, Tiffany C <Tiffany.C.Hunt@dhhs.nc.gov>; Lightbourne, Ena <ena.lightbourne@dhhs.nc.gov>
Cc: Kirkman, Elizabeth <Elizabeth.Kirkman@atriumhealth.org>
Subject: [External] Exemption Request for The Charlotte-Mecklenburg Hospital Authority d/b/a Atrium Health Cleveland

Good afternoon,

I hope this email finds you well. Please find attached an exemption request submitted by The Charlotte-Mecklenburg Hospital Authority ("CMHA") d/b/a Atrium Health Cleveland ("AH Cleveland") to replace a fixed MRI scanner located in the main hospital building.

Thank you very much, and please let me know if you have any questions.

Best,

Brighid

Brighid Knoll Huber, MHA, ATC
Strategic Services Group
Mobile: 724-986-6214

Atrium Health
Carolinas HealthCare System is Atrium Health

2709 Water Ridge Parkway, Suite 200, Charlotte, NC 28217

information it contains. Thank you.
