REPORT

SINKHOLE EVALUATION ADJACENT TO THE MARTA DECATUR STATION IN DECATUR, GEORGIA

Investigation and Traffic Control Plan

Submitted By: Golder Associates Inc.
3730 Chamblee Tucker Road
Atlanta, GA 30341

Distribution: 1 copy – EGSci (Mike Khalil)

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Revision 3

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1.0 INVESTIGATION PLAN:

The field investigation that the MARTA Geotechnical Consulting Team (GCT) has proposed will consist of using dye testing, ground penetrating radar (GPR), hammer drills, probing, and remote camera inspection of sewers to investigate the subsurface beneath the pavement near the north and south edges of the MARTA subway box. This activity will affect the City of Decatur's vehicular traffic flow in Church and Sycamore St and the pedestrian traffic flow on sidewalks along Church St in and near the intersection of Sycamore St. The investigation areas will be limited to approximately 20 feet within the north and south edges of the MARTA subway box (Figure 1). This revision includes changes to our December 1 and December 9, 2014 proposals based on discussions with representatives of the City of Decatur.

1.1 Dye Testing Activities

The first field activity to be conducted will be dye testing. The existing sinkholes along Church St and in the sidewalk on the east side of Church St will be tested by discharging dyed water into the sinkholes. A lane closure of the south-bound left turn lane in Church St will be required so that a water truck may be allowed to park near the sinkhole in the street and discharge the dyed water. Dye testing in the sinkhole at the sidewalk will be completed in advance of this investigation program, as plans are currently underway to backfill that sink hole with flowable concrete fill. The sidewalk sinkhole repair will be part of ongoing activities being undertaken by Town Square condominium.

Following the discharge of the dyed water into the sinkholes, the water levels must be monitored; therefore no other investigation activities will be conducted simultaneously with dye testing.

This task is expected to take one day to complete.

1.2 GPR and Subsurface Probing

Following the dye testing activities, GPR and probing activities will commence. The investigation activities on the sidewalk and in the street will be conducted in the same manner, however traffic control when working in the street compared to working on the sidewalk will be different. Proposed methods of handling vehicular traffic in Church St and pedestrian traffic on the sidewalk are outlined in the sections below.

The GCT will investigate a single traffic lane or sidewalk at a time where the following activities will take place:

- The investigation area will be secured with signage, lane closure or cones (see details in sections below). Only one lane will be closed at a time. Multiple closures may be conducted per day;

- A GPR survey will be conducted in the investigation area (the GPR instrument is approximately the size and shape of a push lawn mower; this instrument is non-destructive);
- A limited amount of small holes, up to one inch in diameter, will be drilled through the concrete or asphalt pavement;
- Push rods (3/8 to 1/2 inch in diameter) will be advanced into the ground through the holes in the pavement;
- The holes in the pavement will be patched with a cement patch; and,
- Traffic controls will be broken down and moved to the next investigation area.

This task is expected to take three days to complete. Time to complete this activity is dependent on the City's approval of MARTA's GCT traffic control plan. Changes to the proposed plan may result in increased time to complete the GPR and subsurface probing activities; please refer to traffic control plan section below for further details.

1.3 Remote Camera Investigation

Several manholes will need to be accessed in Church St to perform the remote camera inspection activities which will require lane closures and or blocking of parking spaces on the east side of Church St. To reduce the period of traffic disruption, the GCT proposes to access and perform the camera investigation at the same time that the GPR and Subsurface Probing task takes place.

Once the lane of traffic where the manhole is located is secured, the manhole will be opened and the pipes intersecting the manhole will be investigated with a remote, robotic camera. When the camera investigation is complete, the manhole will be closed.

2.0 PRELIMINARY TRAFFIC CONTROL CONCEPT:

Based on discussions with representatives from the City of Decatur, we have prepared the following detailed traffic control plan as described below and in the attached figures.

For the dye testing task, only the south-bound turn lane in Church St. on the north side of the intersection of Sycamore St. will be closed. Traffic patterns on Church St. and traffic to and from Sycamore St will not change.

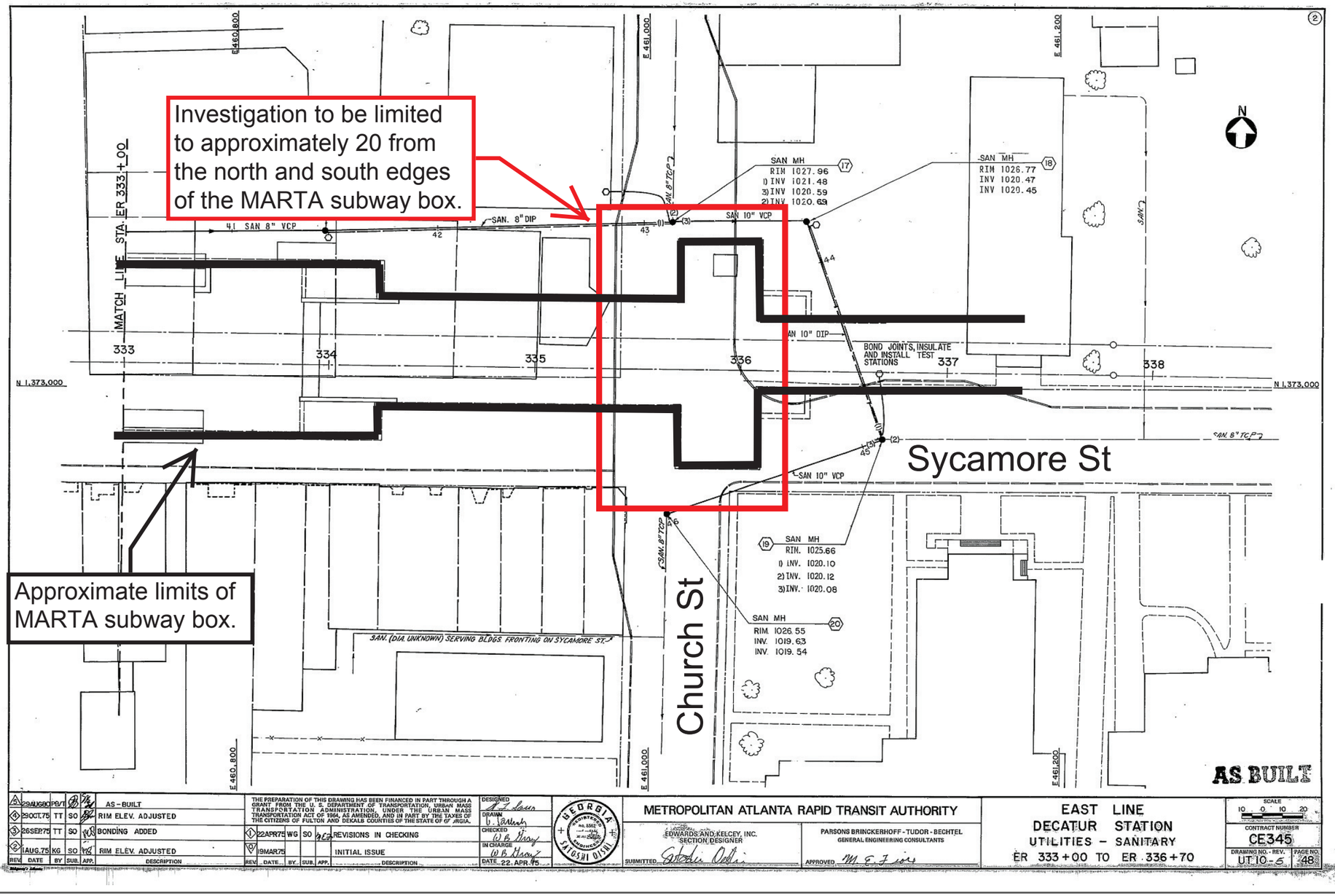
For the GPR and Subsurface Probing task, we propose to close one lane at a time, for a total of four separate closures, across the Church St – Sycamore St intersection. Under this plan, north bound and south bound traffic along Church St would not be interrupted during any closure. East-bound traffic on Sycamore St, coming from Church St, would be detoured during all closures, however an outlet on Church St will be maintained during all lane closures for west-bound Sycamore St traffic. Please see the attached Figures 2 and 3 which outline the proposed lane closures in detail.

As described in our investigation plan, we will be investigating the north and south side of the MARTA subway box in and adjacent to Church St. As shown in Figure 1, the south edge of the MARTA subway box is located approximately in the intersection of Church St. and Sycamore St. Because of the location of the box, it will be necessary to partially close the intersection for traffic to and from Sycamore St. during our GPR and subsurface probing investigation; an outlet from Sycamore St to Church St will remain open at all times, as described above and in the attached figures. Additionally, closing the intersection will allow us to complete our investigations on the north and south side of the subway box during a single lane closure which will expedite the completion of the fieldwork. Completing the field investigation in this manner is expected to take three days of lane closure. If the intersection must remain open for all traffic to and from Sycamore St. the south side of the subway box cannot be investigated.

3.0 SIDEWALK CONTROL PLAN:

As discussed in the investigation plan, we will be investigating the north and south side of the MARTA subway box along the Church St sidewalks. We propose to close the sidewalks during our drilling and probing investigation. Only one sidewalk along Church St will be closed at a time (either the east or west sidewalk). Signage will be placed at the corner of Church St and E Ponce De Leon Ave directing pedestrian traffic from the closed sidewalk to the open sidewalk; signage will place along the block of the closed sidewalk stating that work is being performed and advising alternate routes for pedestrian traffic.

Before the investigation at each location begins, signs will be set up on either side of the investigation area stating that work activity is being conducted. The immediate work area will be blocked off with safety cones to prevent pedestrians from walking through the work area.



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CLIENT marta

Geotechnical Investigation

FIGURE 1

SITE: MARTA Decatur Investigation

Extent of GPR and Subsurface Probing Along Church St

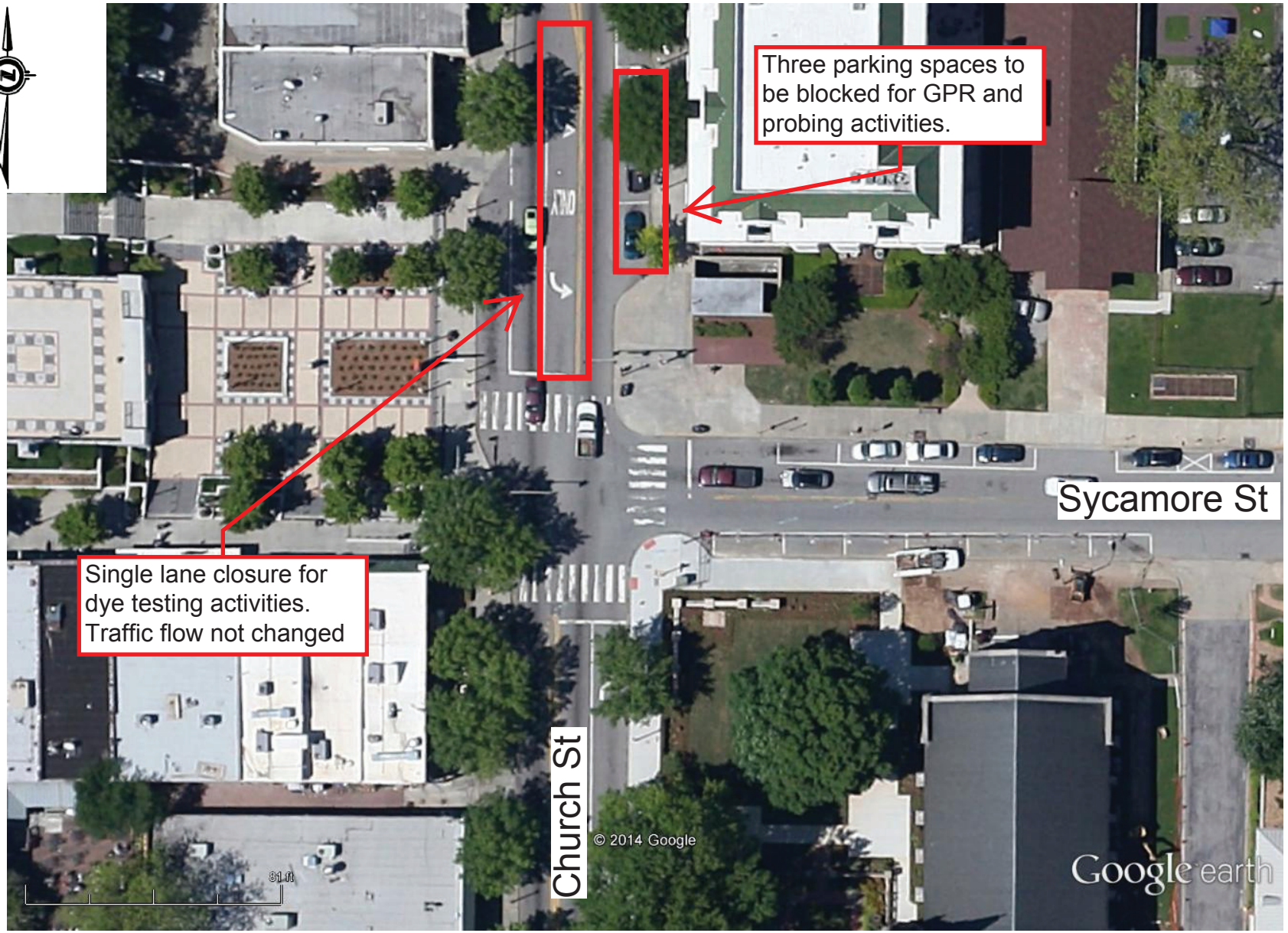

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FIGURE 2

SITE: MARTA Decatur Investigation

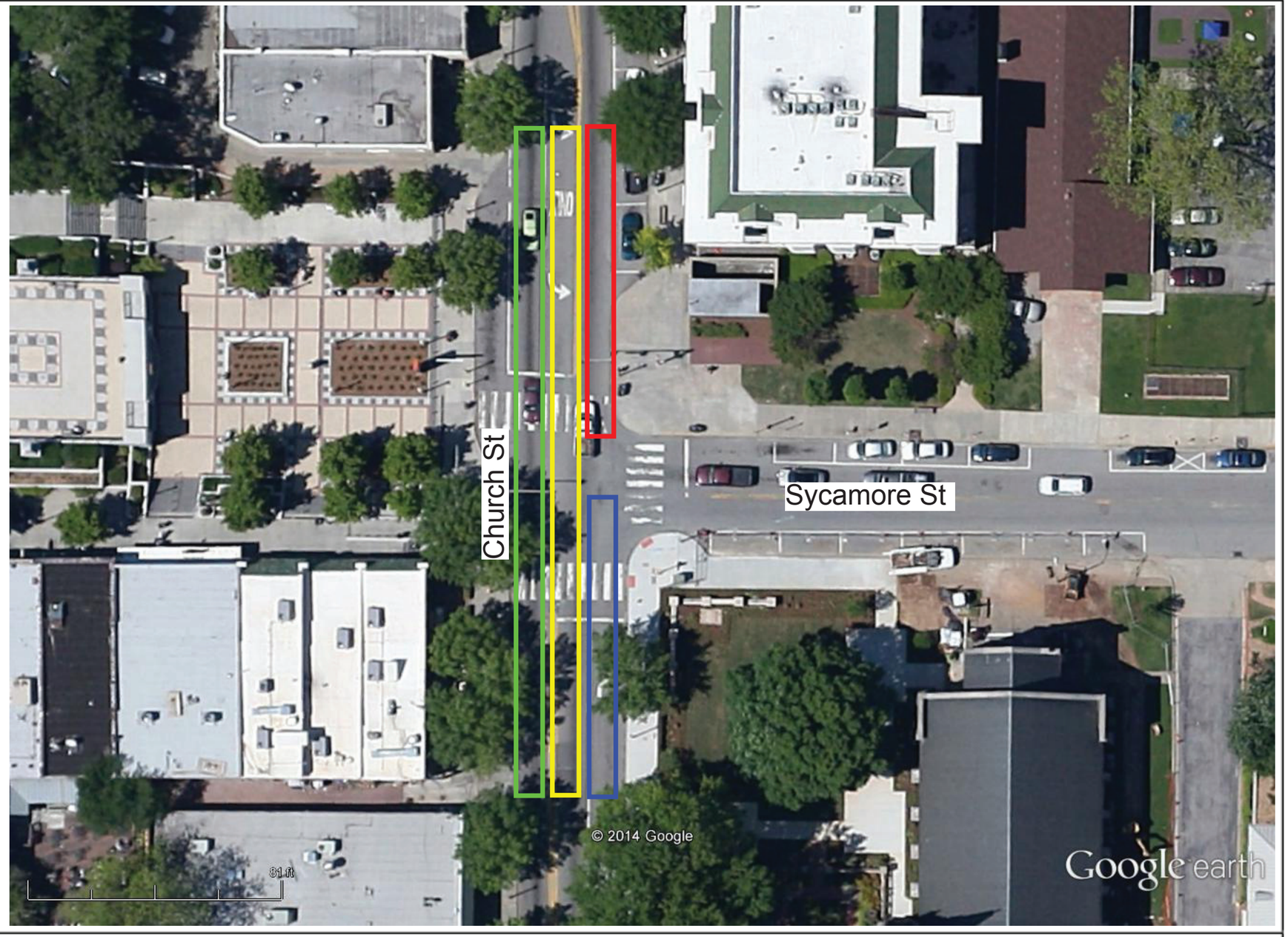
Proposed Traffic Lane Closures for Dye Testing

Note: Lanes to be closed one at a time, for a total of four separate closures, across the Church St - Sycamore St intersection. North and south-bound traffic on Church St will not be interrupted during any closure. East -bound traffic on Sycamore St from Church St will be detoured during all closures, however an outlet from Sycamore St to Church St will be maintained during all lane closures (see details below).

LEGEND

When green, red, or blue lane sections are closed, traffic from Sycamore will be allowed to turn north or south-bound on Church St.

When yellow lane section is closed, traffic from Sycamore will be allowed to turn north on Church St (right turn allowed); Traffic from Sycamore to turn south on Church St will be detoured (no left turn).



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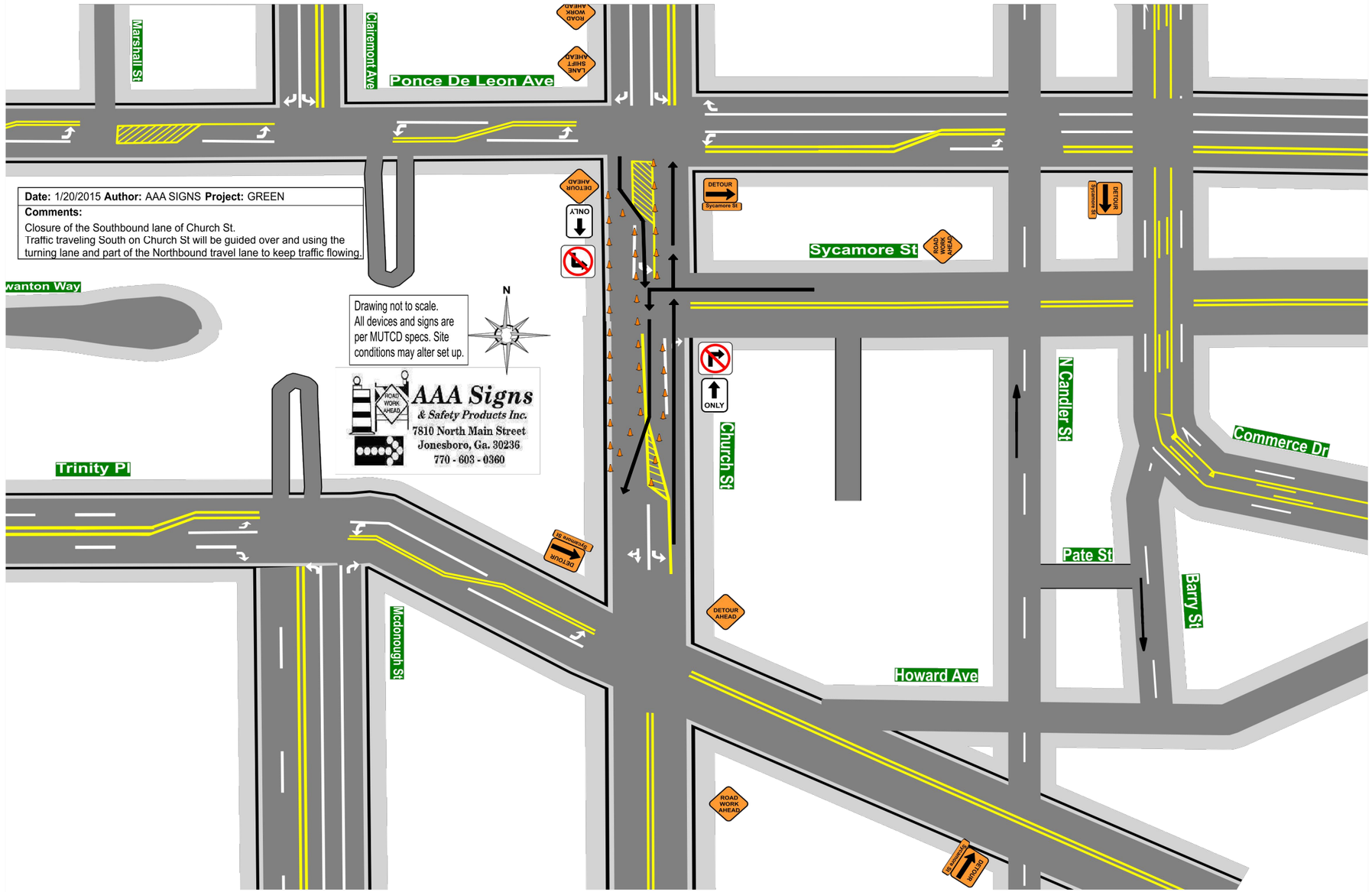
EGSci consulting inc	marta	Geotechnical Investigation	FIGURE 3 SITE: MARTA Decatur Station Proposed Traffic Lane Closures Concept for GPR and Subsurface Probing



Date: 1/20/2015 **Author:** AAA SIGNS **Project:** GREEN

Comments:

Closure of the Southbound lane of Church St.
Traffic traveling South on Church St will be guided over and using the turning lane and part of the Northbound travel lane to keep traffic flowing.

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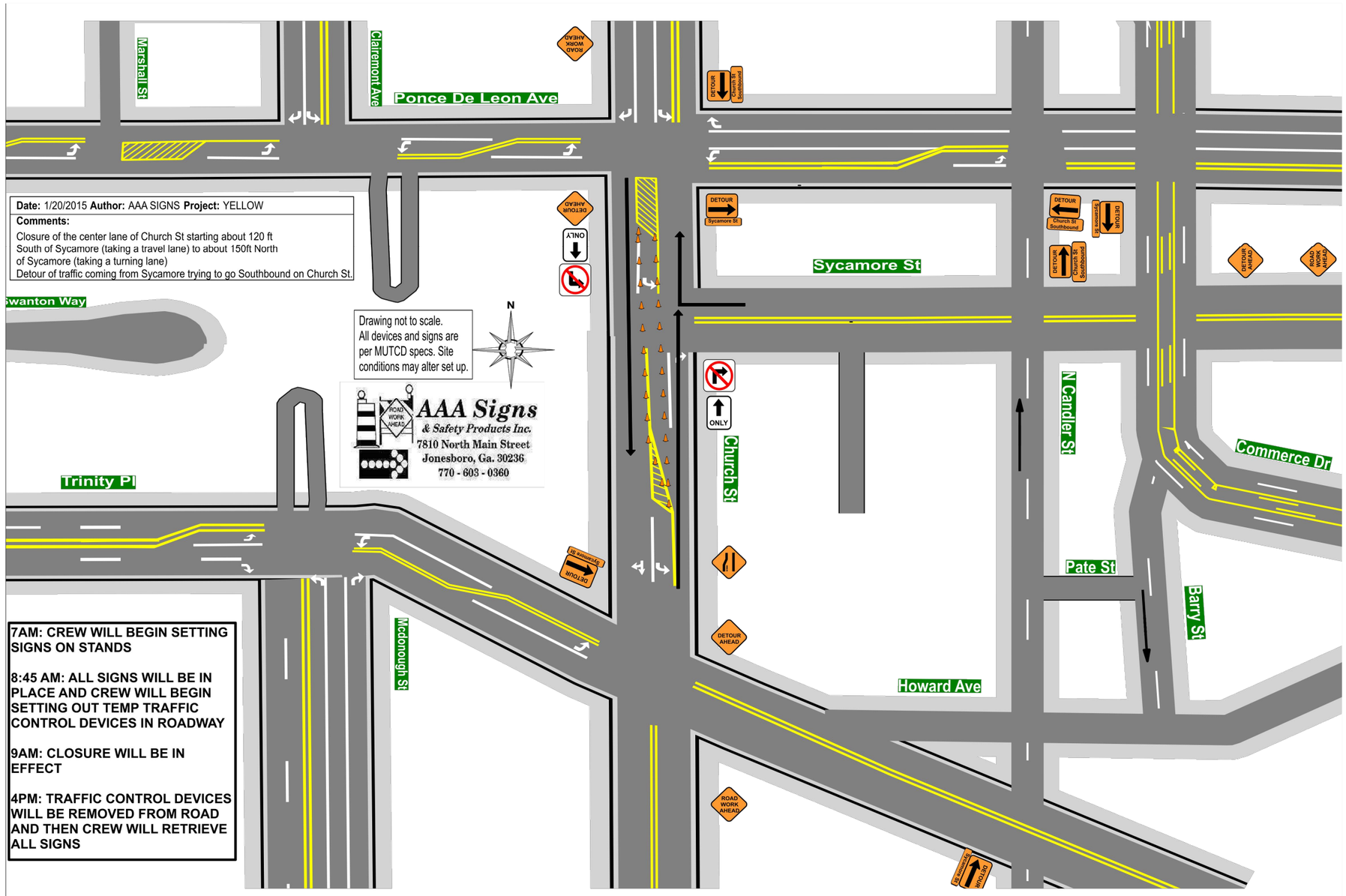
Consultant	EGSci consulting inc *1455 Lincoln Parkway- Suite 500* *Atlanta GA, 30346*	*Client*	marta	Geotechnical Investigation	Figure 3 Green Site: MARTA Decatur Station Proposed Traffic Lane Closures for GPR and Subsurface Probing



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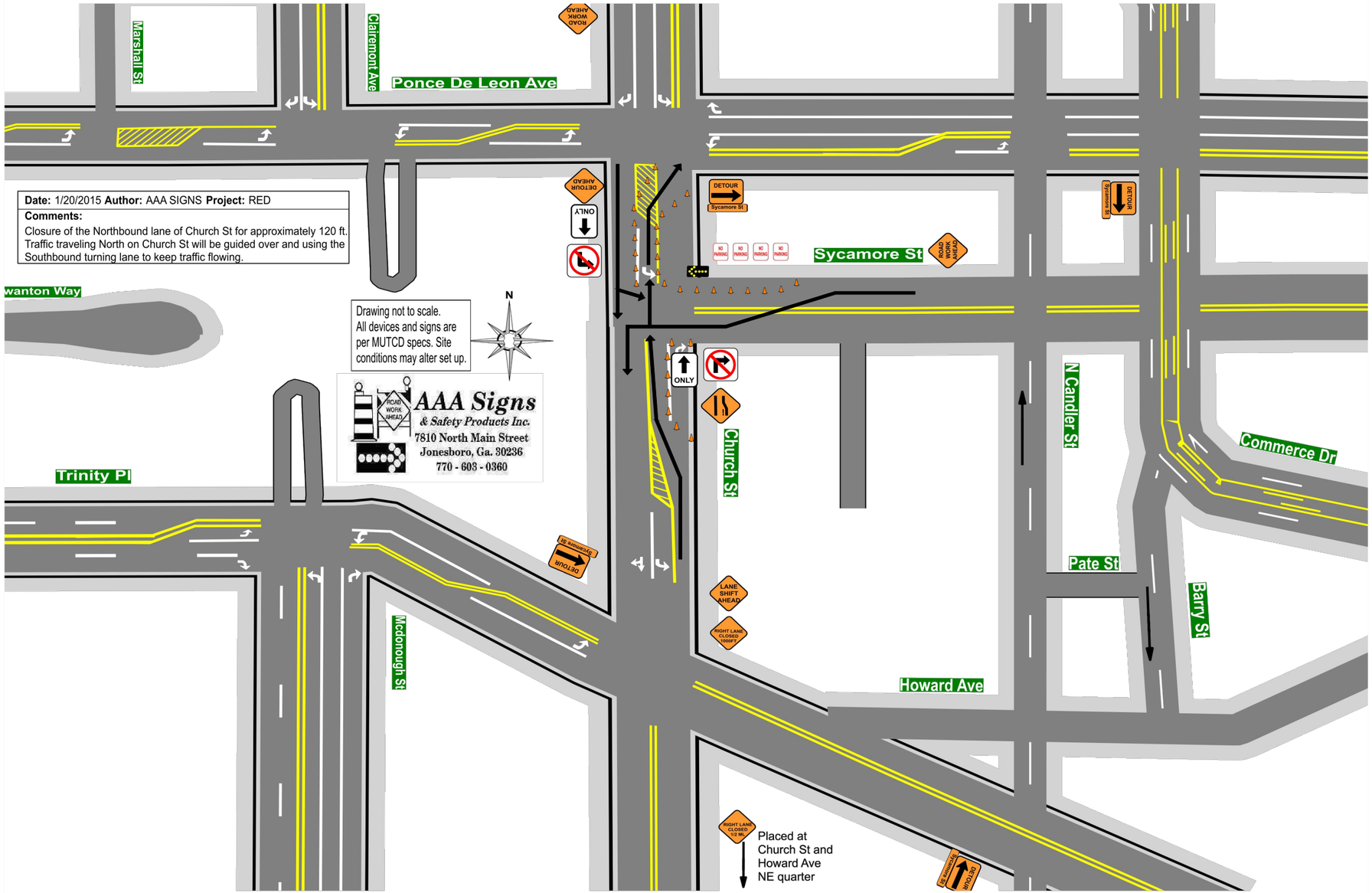

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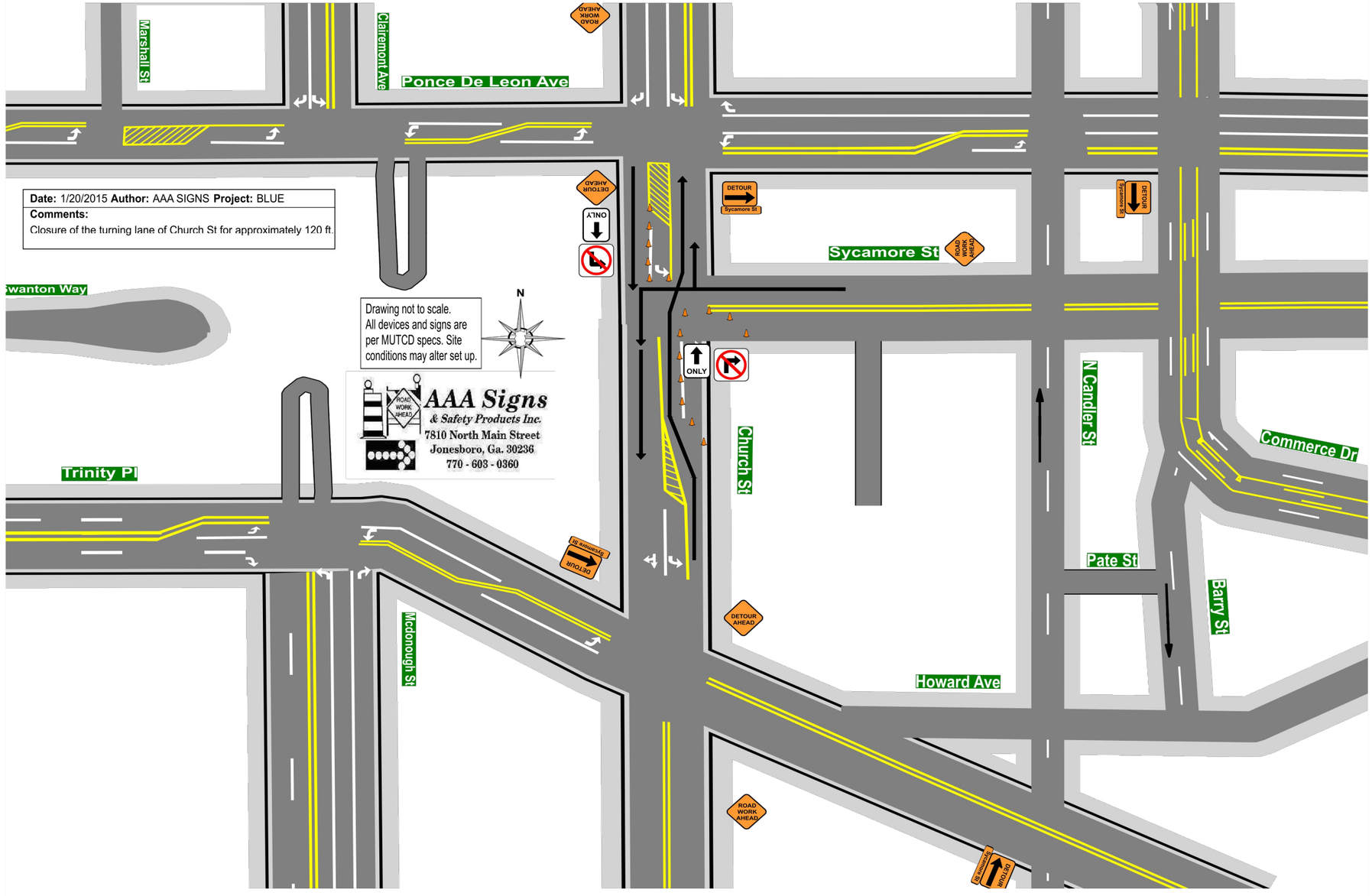
Consultant	EGSci consulting inc *1455 Lincoln Parkway- Suite 500* *Atlanta GA, 30346*	*Client*	marta	Geotechnical Investigation	Figure 3 Red Site: MARTA Decatur Station Proposed Traffic Lane Closures for GPR and Subsurface Probing



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Consultant	EGSci consulting inc *1455 Lincoln Parkway- Suite 500* *Atlanta GA, 30346*	Client	marta	Geotechnical Investigation	Figure 3 Blue Site: MARTA Decatur Station Proposed Traffic Lane Closures for GPR and Subsurface Probing

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Africa	+ 27 11 254 4800
Asia	+ 852 2562 3658
Australasia	+ 61 3 8862 3500
Europe	+ 356 21 42 30 20
North America	+ 1 800 275 3281
South America	+ 56 2 2616 2000

solutions@golder.com
www.golder.com

Golder Associates Inc.
3730 Chamblee Tucker Road
Atlanta, GA 30341
Tel: +1 (770) 496-1893
Fax: +1 (770) 934-9476

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