

From: [Carol Akers](#)
To: [Janet Busse](#); [Rachael Evanson](#)
Subject: Late Material for 12-3-2020 Item 11.A - Atkins Amendment updated
Date: Wednesday, December 2, 2020 4:03:45 PM
Attachments: [20300032 Amendment 1-Revised.pdf](#)

This is Late Material for Item 11.A

The Amendment document has been updated to provide more information for the increase and Matthew Lawton has provided background information for the strategic asset management plan work below.

For Possible Action: Discussion and possible action regarding Amendment No. 1 to Contract No. 20300032, On-call Geographic Information System Services, with Atkins, to increase the contract amount by \$50,000 for a new total contract amount of \$99,999 through June 30, 2021 to be funded from the General Fund / GIS-Professional Services Account. (Carol Akers; CAkers@carson.org and Matthew Lawton; MLawton@carson.org)

Staff Summary: Atkins provides on-call support to Carson City GIS for the deployment of Esri's Enterprise GIS platform, deployment of web applications, mobile data collection tools, dashboard development, database management, and system administration. In addition, Atkins supported the successful completion of the enterprise asset management needs assessment and software evaluation in the spring of 2020, providing best practice recommendations, including a framework toward developing a Carson City strategic asset management plan (SAMP). Staff recommends continuing the engagement of Atkins. With the proposed amendment, the total contract amount exceeds \$50,000 and therefore requires Board of Supervisors' approval.

Additional information provided by Matthew Lawton: Since 2016 the Carson City Asset Management Program has been funded from the City's GIS budget due to the integrated nature of those functions. In 2019 the Board approved additional funding to GIS professional services to pursue an enterprise asset management needs assessment and software solutions evaluation. Atkins won a competitive bid to perform those services. To follow through on the best practice recommendations from that evaluation, Atkins is uniquely suited to advise staff on the development of a strategic asset management plan. Staff recommends continuing the engagement of Atkins by increasing this contract by \$25,000 for GIS on-call services and support and \$25,000 for strategic asset management plan development and support, for a total increase of \$50,000.

Thank you,

Carol Akers | Purchasing & Contracts Administrator
Carson City Executive Office
201 N. Carson St., Suite #2
(775) 283-7362
CAkers@carson.org

AMENDMENT FOR CONTRACT

Contract No.: 20300032
Title: On-Call Geographic Information System Services
Amendment No.: 1

If Consideration will be amended, please indicate amount: Increase additional \$50,000.

Reason for amendment: To increase contract by an additional \$50,000 for a new total contract amount of \$99,999, through June 30, 2021. This will increase Task 1, GIS on-call services and support an additional \$25,000 and Task 2 will be added to the contract for the Strategic Asset Management Plan development and support for \$25,000; both as further described in the proposed amendment attached hereto as Amendment Exhibit 1.

It is also agreed that all unaffected conditions, requirements, and restrictions of the Original Contract document remain in full force and effect for the duration of the Contract term.

Amendment will become effective when signed by Purchasing and Contracts.

Approved by:

(1) City Department: Information Technology

Name/Title: James Underwood, Chief Information Officer

Signature: _____ Date: _____

(2) District Attorney's Office:

Name/Title: Todd Reese, Deputy District Attorney

Signature: _____ Date: _____

(3) Carson City Purchasing and Contracts:

Name/Title: Carol Akers, Purchasing and Contracts Administrator

Signature: _____ Date: _____

(4) Atkins:

Name/Title: Brian Janes, Project Director

Signature: _____ Date: _____

Contract 20300032
Amendment Exhibit 1

atkinglobal.com
snclavalin.com

Matt Lawton
Carson City Information Technology
3505 Butti Way
Carson City, NV 89701-3498

24 November, 2020

Dear Matt,

Per your request, I am submitting this proposed addendum for Contract Number 20300032 (June 30, 2020), providing GIS professional and asset management related services as detailed below on behalf of Atkins North America for Fiscal Year 2021. The two tasks below describe the efforts to be executed under this contract. Additionally, I have also included a summary (Attachment A) of the completed tasks that Atkins has provided the City support for in the past few years, along with our ongoing and planned tasks for Fiscal Year 2021. This proposal is for a time and material contract with a maximum budget not to exceed as detailed in the table below.

Task	Name	Original Fee	Addendum Amount	Total Fee
1	GIS On-Call Support	\$49,999	\$25,000	\$74,999
2	Development of a First-Generation Strategic Asset Management Plan	\$0	\$25,000	\$25,000
	Total	\$49,999	\$50,000	\$99,999

Task 1 – GIS On-Call Support

The City has made great progress with the implementation of enterprise GIS within the past few years. Successes include the deployment of Esri's Enterprise GIS platform, deployment of web applications, mobile data collection tools, and dashboards. Supporting various divisions inside Public Works including Water, Wastewater, Engineering, Parks, and Transportation. Also, departments outside of Public Works, such as the Fire Department and Health and Human Services. Building on these successes, Atkins North America will provide services related to GIS On-Call support for Fiscal Year 2021 including, but not limited to:

- Application development and support
 - Existing application maintenance and improvements
 - Field data collection application configuration and development
 - Web application configuration and development

- Integration of GIS with City systems and data
- Database management support
 - New schema development
 - Database optimization
- System administration and support
 - Optimization of enterprise GIS platform components
 - Routine system support and maintenance

Task 2 - Development of a First-Generation Strategic Asset Management Plan (SAMP).

The City has made exceptional progress in its development of asset management capabilities since inception of the asset management program in 2016. The City has initiated, and made demonstrable progress, in the following core areas that underpin asset management:

- Asset Inventory
- Condition Assessment
- Maintenance Planning/Programming
- Capital Improvement Planning
- Reporting

In addition, Atkins supported the successful completion of the enterprise asset management needs assessment and software evaluation in the spring of 2020, providing best practice recommendations, including a framework toward developing a Carson City strategic asset management plan (SAMP). Building upon our knowledge and experience gained in that effort, the City has requested Atkins support the development of a first-generation SAMP. The first-generation SAMP will lay out the activities to be performed to ensure that the City’s assets are managed and used optimally in the delivery of the City’s goals and objectives.

Development of a first generation SAMP will include:

- Selection of one or more City services (Parks, Water, etc.) to be within the scope of the SAMP
- Identification of goals/objectives for each selected City Service in the SAMP [nominally taken from the City Master Plan; other sources TBD]
- Identification of physical assets required to meet/deliver the City Service’s goals/objectives
- Develop asset level metrics [**service levels**] that when met reflect attainment of the City Service’s goals/objectives. Some examples include:
 - Asset - condition, capacity, obsolescence, fit for purpose, efficiency, risk, etc.
 - Maintenance – uptime, corrective/reactive maintenance as percentage of total maintenance, maintenance cost as percent of replacement cost, etc.
 - Financial - reserve levels, investment/renewal ratios, operating ratio
 - Decision criteria – identify the criteria that will drive asset level decisions (e.g. replace)
- Identify organizational roles/responsibilities that enable City staff carry out the SAMP activities.

The first generation SAMP is expected to be developed with input from a small number of key stakeholders for each included City Service: GIS, City Senior/Exec Mgt., Maintenance, Finance, Engineering, Asset Management.

Thank you for this opportunity and feel free to contact me anytime.

[Amendment Exhibit 1](#)



Brian Janes, P.E.
Project Director
775-789-9831

Attachment A – Highlights of Task in Support of GIS Services
Attachment B – FY 2021 Professional Services Fee Schedule

Attachment A: Highlights of Task in Support of GIS Services

COMPLETED	ONGOING	PLANNED
Sanitary Sewer Manhole Inspection Mobile Data Collection	New Fire Hydrant Inspection Mobile Data Collection	GIS Mobile Data Collection General Support
Sanitary Sewer Manhole Inspection Dashboard	Fire Hydrant Flow Testing Mobile Data Collection	Data & Workflow Coordination between GIS and READYAsset
Sanitary Sewer CCTV Dashboard POSM Integration	GIS to CAD Automated Conversion	Environmental Pre-treatment GIS App Support & Workflow Development
Defensible Space Mobile Data Collection	Environmental Permit Assets Mobile Data Collection	Parks/Facilities Asset Hierarchy Development
Defensible Space Dashboard	Environmental Permit Assets Web Application	Data Provisioning Assistance for Asset Management BI/Dashboarding
Water Meter Mobile Data Collection	City GIS Portal Site Improvements	Enterprise GIS Architecture Update
Water Valve Inspection Mobile Data Collection	Transportation Data Schema	GIS Portal/Server Backup and Failover Strategy
Water Valve Inspection Dashboard		Enterprise Geodatabase Restructuring
Fire Hydrant Maintenance Inspection Mobile App		ArcGIS Server Security Improvements
ArcGIS Enterprise Implementation		Migrate Capital Projects Planning Apps to GIS Portal
City GIS Portal Web Application		Manhole Inspection Data Review & Workflow Improvements
Construction Drawing Index Web Application		Pavement Maintenance Capture & linkage to Projects Data
Recorded Maps Index Web Application		Strategic Asset Management Plan Development
Community Development Status Web Application		Asset Management Policy Development
Enterprise Asset Management System Evaluation		Asset Systems Plans Development
		GIS editing dashboard Development (version tracking)
		Redesign City GIS viewer (MapGeo replacement)
		Water System Asset Criticality Analysis Support
		Field Asset Data Collection Workflow Improvement (collecting field assets at time on install)
		City Road Closure Application Development

Completed Tasks Performed by Atkins:

1. **ArcGIS Enterprise Implementation** – This task involved an on-premise installation and configuration of ArcGIS Enterprise, including, Portal for ArcGIS, ArcGIS Server, and ArcGIS Data Store. The platform was configured to utilize the City’s authentication system providing a single sign-on experience. Customization to the City’s Portal homepage was performed to provide a distinctive and branded experience.
2. **Enterprise Asset Management System Evaluation** – This task involved the assessment and evaluation of asset management systems. This effort included; requirements development, vendor solicitation, evaluation criteria, scoring development, vendor demonstrations, demonstration scoring, demonstrations summaries, and a final evaluation report.
3. **Sanitary Sewer Manhole Inspection Mobile Data Collection** – This task involved the creation of a field data collection configuration for the purposes of capturing information related to sanitary sewer manhole inspections. The configuration included manhole attributes and manhole condition information. The configuration also included the calculation of overall condition based on the individual condition responses.
4. **Sanitary Sewer Manhole Inspection Dashboard** – This task involved the creation of a dashboard web application for the display of results generated from sanitary sewer manhole inspections. The dashboard displays manholes by condition rating, the total completed inspections, the number of manholes by condition rating, summaries for condition ratings (including individual ratings by manhole), and a filter tool that allow users to focus on specific ratings. The dashboard is map based and interactive, allowing users to investigate specific manhole attributes and conditions, including viewing pictures taken during the inspection.
5. **Sanitary Sewer CCTV Dashboard POSM Integration** – This task involved the creation of a dashboard web application for the display of results generated during sanitary sewer CCTV inspections. The dashboard displays sewer pipe reaches by PACP ratings (overall, structural, and maintenance), the total length of sewer pipe inspected, summaries of the ratings by pipe (including individual ratings by pipe), graphs depicting the results based on rating, including the length of pipe surveyed by contractor, and a filter tool that allow users to focus on specific ratings. The dashboard is map based and interactive, allowing users to investigate specific pipe attributes and conditions, including viewing the inspection reports and links to videos captured during the inspection.
6. **Defensible Space Mobile Data Collection** – This task involved the creation of a field data collection configuration for the purposes of capturing information related to the Fire Departments defensible space inspections.
7. **Defensible Space Dashboard** – This task involved the creation of a dashboard web application for the display of results generated during the Fire Departments defensible space inspections. The dashboard displays locations of property inspections categorized by property type (improved/not improved) and by inspection status. The dashboard also displays the total number of inspections performed, the total number of properties by inspection status, including individual inspection results for each property inspected. Inspection reports can also be generated by individual property or for multiple properties at one time.
8. **Water Meter Mobile Data Collection** - This task involved the creation of a field data collection configuration for the purposes of capturing information related to water meter locations and attributes.
9. **Water Valve Inspection Mobile Data Collection** - This task involved the creation of a field data collection configuration for the purposes of capturing information related to water valve inspections,

including locations and attributes.

10. **Water Valve Inspection Web Application** - This task involved the creation of a web application for the display of results generated during water meter inspections and exercising. The web application displays locations of valves, a list of inspected valves, date filters, and individual valve details.
11. **Fire Hydrant Maintenance Inspection Mobile Data Collection** - This task involved the creation of a field data collection configuration for the purposes of capturing information related to fire hydrant maintenance and inspections, including locations and attributes.
12. **Construction Drawing Index Web Application** – This task involved the re-development of the City’s existing construction drawing application. The new application provides a filter tool to easily identify drawings based on year, title, index #, permit #, and/or street/address. The application displays the drawing boundaries, provides drawing details, and drawings can be viewed directly within the application or downloaded via direct link.
13. **Recorded Maps Index Web Application** - This task involved the re-development of the City’s existing recorded maps index application. The new application provides a filter tool to easily identify maps based on date, name, document #, map #, and/or street(s). The application displays the map boundaries, provides map details, and maps can be viewed from the county recorders document management system, accessible via direct link.
14. **Community Development Status Web Application** – This task involved the creation of a web application for the purposes of displaying current development status information. Property locations under development review are displayed and listed by the status of the review. Users can select an address within the list and view the location on a map. Information about the location, including the current status is displayed. Direct links provide access to the Community Development Department’s property documents for the location.

In Progress Tasks:

1. **New Fire Hydrant Inspection Mobile Data Collection** – This task involves the creation of a field data collection configuration for the purposes of capturing information related to the installation of new fire hydrants.
2. **Fire Hydrant Flow Testing Mobile Data Collection** - This task involves the creation of a field data collection configuration for the purposes of capturing information related to fire hydrant flow testing. Testing parameters and results input into the form are utilized for real time capacity calculations.
3. **GIS to CAD Automated Conversion** - This task involves the automation of the process for extraction and conversion of utility, parcel, and street data from the Enterprise GIS database to AutoCAD dwg files for use in Engineering projects. The process is being scheduled to run periodically to provide Engineers with the latest utility asset information on a regular basis.
4. **Environmental Permit Assets Mobile Data Collection** – This task involves the creation of a field data collection configuration for the purposes of capturing the locations of assets (grease interceptors, sand/oil separators and type 1 manholes) located at permitted locations that are owned and managed by permit holders. Integration with the City’s READYAsset platform provides permit information as well as open work order information related to the permitted location.
5. **Environmental Permit Assets Web Application** – This task involves the creation of a web application for the purposes of displaying environmental permit locations and viewing/editing their related assets. Permit and open work order information originating from READYAsset is searchable

and viewable. Searching and identification of locations by information such as known chemicals onsite is supported within the web application.

6. **Transportation Data Schema** – This task involves the development of GIS database schemas for features related to transportation infrastructure. Including intersections, crosswalks, signals, signs, and other related features.
7. **City GIS Portal Site Improvements** – This task involves the continued support for the improvements and updates to the City’s GIS Portal site. The City’s GIS Portal site functions and the main access hub for all the City’s GIS applications.

Planned Tasks for FY 2021 and Beyond

1. **GIS Mobile Data Collection General Support** – Ongoing efforts to support field data collection throughout City departments.
2. **Data & Workflow Coordination between GIS and READYAsset** – Support for the further integration between GIS and the City’s work order and asset management system.
3. **Environmental Pretreatment GIS App Support & Workflow Development** – Web & mobile application and data workflow in support of the city’s pre-treatment program.
4. **Parks/Facilities Asset Hierarchy Development** – Building upon the success of the facility condition assessment and in support of the City’s asset management program, Atkins will assist the City with the development of asset hierarchy’s for parks and facilities.
5. **Enterprise GIS Architecture Update** – Atkins will support the City with a re-structuring of GIS system components in order to optimize service and licensing.
6. **GIS Portal/Server Backup and Failover Strategy** – Building on the GIS architecture restructuring, Atkins will support the City with a disaster recovery and fail over strategy that will solidify the platform as use is further adopted throughout the city.
7. **Enterprise Geodatabase Restructuring** – This effort will support the modernization of legacy datasets. Schemas will be evaluated, updated data designs will be developed and implemented.
8. **Migrate Capital Projects Planning Apps to GIS Portal** – This effort will include the migration of apps, maps and data that are currently hosted on ArcGIS Online. ArcGIS Online is a credit-based model that also requires named user licensing. Moving these items to the City’s Portal will reduce the credit consumption on ArcGIS online and place them within the centralized environment providing better access for City staff.
9. **Manhole Inspection Data Review & Workflow Improvements** – This effort will include re-vamping the manhole inspection field data collection configuration. Improvements will target simplifying input and incorporating additional collection inputs.
10. **Pavement Maintenance Capture:** – This effort will include the creation of data collection processes and workflows to support capture of pavement maintenance information for city owned pavement assets. This information will be linked to current project data to assist with the planning and execution of future maintenance activities.

11. **Strategic Asset Management Plan Development** – This effort will include the first-generation strategic asset management plan (SAMP). Which will describe the activities that should be performed to ensure assets are managed and used optimally in the delivery of the City’s goals and objectives.
12. **Asset Management Policy Development** – This effort will include the development of an asset management policy template that is seeded with “leading text” to facilitate ideation and direct text development by senior City staff. The template will be taken directly from ISO 55000 best practice. Atkins will facilitate the City’s work on making the policy content its own. The outcome will be either a final policy for adoption, or an advanced draft.
13. **Asset Systems Plans Development** – This effort will develop asset type specific asset management plans (or AMPs). An AMP is a tactical 3 to 5-year management plan for a specific asset type, where the management plan is inclusive of maintenance, operations, rehab/renewal, capacity planning, fit for purpose, risk, and more. AMPs are the ‘play-book’ that pull the multiple disparate business silos into a cohesive unit that supports asset performance targets. Atkins will develop AMPs one asset type at a time in either on-site or remote workshops.
14. **Data Provisioning Assistance for Asset Management BI/Dashboarding** – This effort will stand up a pilot PowerBI asset management dashboard and document the data, people, process, and technology gaps found through the pilot. The PowerBI dashboard will be intended to be a living deliverable that the City can continue to progress.
15. **GIS Editing Dashboard Development (version tracking)** – This effort will include the creation of a web dashboard for the purposes of identifying and tracking edits made to City assets through various data capture and editing application interfaces.
16. **Redesign City GIS Web Application** – This effort will include the creation of a new GIS web application, built upon the City’s Enterprise GIS platform. This web application will serve to replace the functionality in the current, third party hosted MapGeo application.
17. **Water System Asset Criticality Analysis Support** – This effort will develop a normalized criticality scale for all City asset types, and then will assign criticality scores to individual asset types that make up the water transmission and distribution system(s). Criticality scores and their application to assets will be developed in workshop environments with key asset SMEs from a number of City business areas (not just maintenance, not just engineering). Workshops will be heavily reliant on GIS as a common visualization tool.
18. **Field Asset Data Collection Workflow Improvement** – This effort will include the development of new protocols, procedures, and workflows to support data collection on assets in the field at the time of install. Field data collection configurations will also be developed in support of this effort.
19. **City Road Closure Application Development** – This effort will include the development of a web application to identify and communicate information related to road closures within the city related to maintenance and other activities.

ATTACHMENT B

CARSON CITY GIS ON-CALL FY 2021 PROFESSIONAL SERVICES

ATKINS FEE SCHEDULE

OFFICE PERSONNEL

Asset Management SME	290.00/hr.
Project Director	230.00/hr.
Sr. Software Developer III	191.00/hr.
Project Manager	185.00/hr.
Sr. GIS Analyst II	162.00/hr.
Sr. Software Developer I	129.00/hr.
Sr. GIS Analyst I	114.00/hr.
GIS Analyst II	106.00/hr.

EQUIPMENT

Company Vehicle Charges	\$48.00/day
Personal Vehicle Mileage	\$0.575/mile

NOTES:

- (1) Hourly rates for positions not listed will be negotiated on an as needed basis.
- (2) Hourly rates are applicable for fiscal year from July 1, 2020 to June 30, 2021.
- (3) Hourly rates beyond June 30, 2021 will be negotiated as needed.