

**LOWELL OBSERVATORY**

**YEARS ENDED DECEMBER 31, 2021 AND 2020**

**LOWELL OBSERVATORY**

**YEARS ENDED DECEMBER 31, 2021 AND 2020**

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## Independent Auditors' Report

Board of Directors and Management  
Lowell Observatory  
Flagstaff, Arizona

### **Opinion**

We have audited the accompanying combined financial statements of Lowell Observatory, which comprise the combined statements of financial position as of December 31, 2021 and 2020, and the related combined statements of activities, functional expenses and cash flows for the years then ended, and the related notes to the financial statements.

In our opinion, the combined financial statements referred to above present fairly, in all material respects, the combined financial position of Lowell Observatory as of December 31, 2021 and 2020, and the change in its net assets and its cash flows for the years then ended, in accordance with accounting principles generally accepted in the United States of America.

### **Basis for Opinion**

We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of Lowell Observatory and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### **Responsibilities of Management for the Financial Statements**

Management is responsible for the preparation and fair presentation of the combined financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of combined financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the combined financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about Lowell Observatory's ability to continue as a going concern within one year after the date that the combined financial statements are available to be issued.

### **Auditors' Responsibilities for the Audit of the Financial Statements**

Our objectives are to obtain reasonable assurance about whether the combined financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material

misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the combined financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the combined financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Lowell Observatory's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the combined financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about Lowell Observatory's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

### **Report on Combining Information**

Our audit was conducted for the purpose of forming an opinion on the combined financial statements as a whole. The combining information on pages 29 through 30 is presented for purposes of additional analysis of the combined financial statements rather than to present the financial position, and changes in net assets, of the individual entities, and it is not a required part of the combined financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the combined financial statements. The combining information has been subjected to the auditing procedures applied in the audit of the combined financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the combined financial statements or to the combined financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the combining information is fairly stated in all material respects in relation to the combined financial statements as a whole.

**Other Report Required by Government Auditing Standards**

In accordance with *Government Auditing Standards*, we have also issued a report dated April 1, 2022, on our consideration of Lowell Observatory's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of Lowell Observatory's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Lowell Observatory's internal control over financial reporting and compliance.

*BlackFleischman PLLC*

Phoenix, Arizona  
April 1, 2022

**LOWELL OBSERVATORY**

**COMBINED STATEMENTS OF FINANCIAL POSITION**

**DECEMBER 31, 2021 AND 2020**

	2021	2020
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 839,737	\$ 474,939
Restricted cash and cash equivalents	3,038,607	796,970
Restricted certificates of deposit	6,760,301	4,808,558
Investments	2,321,618	2,172,476
Grants receivable	375,713	572,103
Promises to give, current portion	2,517,396	3,151,810
Estates and bequests receivable	3,900,000	-
Other current assets	1,171,332	596,347
Total current assets	20,924,704	12,573,203
Property and equipment, net	49,803,548	47,612,883
Promises to give, net of current portion	10,776,404	11,421,025
Collection item	400,000	400,000
Assets limited to use:		
Investments with donor restrictions	28,935,069	22,220,045
Total noncurrent assets	89,915,021	81,653,953
Total assets	\$ 110,839,725	\$ 94,227,156
<b>LIABILITIES AND NET ASSETS</b>		
Current liabilities:		
Accounts payable	\$ 687,451	\$ 241,901
Accrued expenses and other current liabilities	93,789	110,455
Current portion of deferred access fee revenue	1,433,332	2,033,332
Total current liabilities	2,214,572	2,385,688
Note payable, bank	5,525,971	2,200,971
Long-term debt	500,000	150,000
Deferred research grant revenue	48,420	45,908
Deferred access fee revenue, net of current portion	5,167,424	5,376,289
Total liabilities	13,456,387	10,158,856
Contingencies		
Net assets:		
Without donor restrictions:		
Net invested in property and equipment	44,277,577	45,261,912
Undesignated	(14,318,505)	(19,367,047)
Board designated	2,320,534	2,082,801
With donor restrictions	32,279,606	27,977,666
Total net assets	97,383,338	84,068,300
Total liabilities and net assets	\$ 110,839,725	\$ 94,227,156

See notes to combined financial statements.

**LOWELL OBSERVATORY**  
**COMBINED STATEMENT OF ACTIVITIES**  
**YEAR ENDED DECEMBER 31, 2021**

	Without donor restrictions	With donor restrictions	Total
Revenues, support and gains:			
Contracts with governmental and other agencies	\$ 4,231,559	\$ -	\$ 4,231,559
Telescope access fees	2,071,708	-	2,071,708
Contributions	8,179,198	9,088,808	17,268,006
Public program revenue	1,372,759	-	1,372,759
Investment income, net	305,849	3,540,812	3,846,661
Other income	320,597	-	320,597
Net assets released from restrictions	3,801,238	(3,801,238)	-
	20,282,908	8,828,382	29,111,290
Expenses:			
Program services:			
Research	5,194,696	-	5,194,696
Technology	4,531,685	-	4,531,685
Public programs	3,046,364	-	3,046,364
	12,772,745	-	12,772,745
Support services:			
Management and general	1,427,953	-	1,427,953
Fundraising	1,595,554	-	1,595,554
	3,023,507	-	3,023,507
	15,796,252	-	15,796,252
Change in net assets before transfers	4,486,656	8,828,382	13,315,038
Transfers of net assets	(184,716)	184,716	-
Change in net assets	4,301,940	9,013,098	13,315,038
Net assets, beginning	27,977,666	56,090,634	84,068,300
Net assets, ending	\$ 32,279,606	\$ 65,103,732	\$ 97,383,338

See notes to combined financial statements.

**LOWELL OBSERVATORY**  
**COMBINED STATEMENT OF ACTIVITIES**  
**YEAR ENDED DECEMBER 31, 2020**

	Without donor restrictions	With donor restrictions	Total
Revenues, support and gains:			
Contracts with governmental and other agencies	\$ 3,195,523	\$ -	\$ 3,195,523
Telescope access fees	2,350,197	-	2,350,197
Contributions	4,186,795	7,794,068	11,980,863
Public program revenue	455,745	-	455,745
Investment income, net	529,965	2,754,241	3,284,206
Other income	114,301	-	114,301
Gain on sale of assets	1,642	-	1,642
Net assets released from restrictions	<u>1,624,868</u>	<u>(1,624,868)</u>	<u>-</u>
	<u>12,459,036</u>	<u>8,923,441</u>	<u>21,382,477</u>
Expenses:			
Program services:			
Research	4,245,414	-	4,245,414
Technology	3,971,357	-	3,971,357
Public programs	<u>2,772,183</u>	<u>-</u>	<u>2,772,183</u>
	<u>10,988,954</u>	<u>-</u>	<u>10,988,954</u>
Support services:			
Management and general	1,293,901	-	1,293,901
Fundraising	<u>1,227,430</u>	<u>-</u>	<u>1,227,430</u>
	<u>2,521,331</u>	<u>-</u>	<u>2,521,331</u>
	<u>13,510,285</u>	<u>-</u>	<u>13,510,285</u>
Change in net assets before transfers	(1,051,249)	8,923,441	7,872,192
Transfers of net assets	<u>144,895</u>	<u>(144,895)</u>	<u>-</u>
Change in net assets	(906,354)	8,778,546	7,872,192
Net assets, beginning	<u>28,884,020</u>	<u>47,312,088</u>	<u>76,196,108</u>
Net assets, ending	<u>\$ 27,977,666</u>	<u>\$ 56,090,634</u>	<u>\$ 84,068,300</u>

See notes to combined financial statements.



**LOWELL OBSERVATORY**

**COMBINED STATEMENT OF FUNCTIONAL EXPENSES**

**YEAR ENDED DECEMBER 31, 2021**

	Program services				Supporting services			Total expenses
	Research	Technology	Public programs	Total program services	Management and general	Fundraising	Total supporting services	
Salaries	\$ 2,661,104	\$ 1,575,347	\$ 1,729,874	\$ 5,966,325	\$ 745,553	\$ 843,452	\$ 1,589,005	\$ 7,555,330
Payroll taxes and benefits	504,675	337,961	393,091	1,235,727	175,251	169,724	344,975	1,580,702
	3,165,779	1,913,308	2,122,965	7,202,052	920,804	1,013,176	1,933,980	9,136,032
Bad debt	-	-	-	-	-	241,143	241,143	241,143
Depreciation	403,787	1,356,626	324,993	2,085,406	44,016	16,591	60,607	2,146,013
Equipment	53,320	48,738	3,911	105,969	15,652	1,283	16,935	122,904
Insurance	25,278	751,185	18,752	795,215	12,453	2,438	14,891	810,106
Interest	-	67,352	-	67,352	20,660	-	20,660	88,012
Other	54,365	19,749	67,431	141,545	18,373	136,093	154,466	296,011
Professional services	1,063,938	27,827	225,236	1,317,001	249,342	48,473	297,815	1,614,816
Repairs and maintenance	164,340	174,293	134,389	473,022	38,716	67,804	106,520	579,542
Supplies and postage	125,601	24,387	71,431	221,419	18,947	19,463	38,410	259,829
Training and development	12,613	13,636	13,294	39,543	50,952	2,892	53,844	93,387
Travel and meals	23,813	3,757	2,795	30,365	13,596	37,214	50,810	81,175
Utilities	101,862	130,827	61,167	293,856	24,442	8,984	33,426	327,282
	<u>\$ 5,194,696</u>	<u>\$ 4,531,685</u>	<u>\$ 3,046,364</u>	<u>\$ 12,772,745</u>	<u>\$ 1,427,953</u>	<u>\$ 1,595,554</u>	<u>\$ 3,023,507</u>	<u>\$ 15,796,252</u>

See notes to combined financial statements.

**LOWELL OBSERVATORY**

**COMBINED STATEMENT OF FUNCTIONAL EXPENSES**

**YEAR ENDED DECEMBER 31, 2020**

	Program services				Supporting services			Total expenses
	Research	Technology	Public programs	Total program services	Management and general	Fundraising	Total supporting services	
Salaries	\$ 2,323,836	\$ 1,515,789	\$ 1,534,787	\$ 5,374,412	\$ 698,750	\$ 810,107	\$ 1,508,857	\$ 6,883,269
Payroll taxes and benefits	405,909	315,914	315,552	1,037,375	140,687	145,280	285,967	1,323,342
	2,729,745	1,831,703	1,850,339	6,411,787	839,437	955,387	1,794,824	8,206,611
Depreciation	296,693	1,372,289	375,492	2,044,474	46,564	18,334	64,898	2,109,372
Equipment	49,579	27,340	33,793	110,712	5,738	2,598	8,336	119,048
Insurance	11,678	338,003	9,953	359,634	8,630	1,319	9,949	369,583
Interest	-	68,213	-	68,213	2,441	-	2,441	70,654
Other	46,222	22,215	143,079	211,516	80,371	105,529	185,900	397,416
Professional services	711,053	8,820	116,030	835,903	158,334	44,149	202,483	1,038,386
Repairs and maintenance	144,407	160,583	108,642	413,632	37,952	52,849	90,801	504,433
Supplies and postage	106,714	13,654	55,531	175,899	22,338	21,249	43,587	219,486
Training and development	9,876	7,716	8,028	25,620	41,754	3,837	45,591	71,211
Travel and meals	47,643	2,987	14,084	64,714	25,172	12,813	37,985	102,699
Utilities	91,804	117,834	57,212	266,850	25,170	9,366	34,536	301,386
	\$ 4,245,414	\$ 3,971,357	\$ 2,772,183	\$ 10,988,954	\$ 1,293,901	\$ 1,227,430	\$ 2,521,331	\$ 13,510,285

See notes to combined financial statements.

**LOWELL OBSERVATORY**

**COMBINED STATEMENTS OF CASH FLOWS**

**YEARS ENDED DECEMBER 31, 2021 AND 2020**

	2021	2020
Cash flows from operating activities:		
Change in net assets	<u>\$ 13,315,038</u>	<u>\$ 7,872,192</u>
Adjustments to reconcile change in net assets to net cash provided by operating activities:		
Depreciation	2,146,013	2,109,372
Net realized and unrealized gains on investments	(3,527,569)	(2,986,268)
Gain on disposal of assets	-	(1,642)
Contributions for long-term purposes	(8,265,575)	(3,324,609)
Bad debts	241,143	-
Changes in operating assets and liabilities:		
Grants receivable	196,390	(252,674)
Promises to give	1,037,892	(1,395,181)
Estates and bequests receivable	(3,900,000)	-
Other current assets	(574,985)	(254,447)
Accounts payable	445,550	(133,572)
Accrued expenses and other current liabilities	(16,666)	57,794
Deferred research grant revenue	2,512	1,332
Deferred access fee revenue	(808,865)	(60,782)
Net adjustments	<u>(13,024,160)</u>	<u>(6,240,677)</u>
Net cash provided by operating activities	<u>290,878</u>	<u>1,631,515</u>
Cash flows from investing activities:		
Purchases of property and equipment	(4,336,678)	(2,395,093)
Proceeds from disposal of assets	-	1,031,086
Purchases of investments	(11,128,066)	(4,125,735)
Proceeds from sale/maturity of investments	7,791,469	5,507,380
Purchases of certificates of deposit	<u>(1,951,743)</u>	<u>(4,404,976)</u>
Net cash used in investing activities	<u>(9,625,018)</u>	<u>(4,387,338)</u>
Cash flows from financing activities:		
Payments on note payable, bank	-	(394,029)
Proceeds from note payable, bank	3,325,000	-
Proceed from long-term debt	350,000	150,000
Contributions restricted for long-term purposes	<u>8,265,575</u>	<u>3,324,609</u>
Net cash provided by financing activities	<u>11,940,575</u>	<u>3,080,580</u>
Net increase in cash, cash equivalents, and restricted cash and cash equivalents	2,606,435	324,757
Cash, cash equivalents, and restricted cash and cash equivalents, beginning	<u>1,271,909</u>	<u>947,152</u>
Cash, cash equivalents, and restricted cash and cash equivalents, ending	<u>\$ 3,878,344</u>	<u>\$ 1,271,909</u>

See notes to combined financial statements.

## LOWELL OBSERVATORY

### NOTES TO COMBINED FINANCIAL STATEMENTS

#### YEARS ENDED DECEMBER 31, 2021 AND 2020

1. Description of organization and summary of significant accounting policies:

Organization:

Lowell Observatory (the Observatory), located in Flagstaff, Arizona, is a nonprofit organization whose purpose is conducting astronomical research and sponsoring educational programs related to astronomy. The Observatory's mission is to pursue the study of astronomy, especially the study of our solar system and its evolution; to conduct pure research in astronomical phenomena; and to maintain quality public education and outreach programs to bring the results of astronomical research to the general public. The Observatory is overseen by a Sole Trustee, who is the responsible party for all operations of the Observatory. The Observatory's programs are supported primarily by government grants, public contributions, and investment returns. Therefore, the Organization's viability is dependent upon the strength and support provided to the nonprofit industry, and the Organization's ability to collect on its contracts and promises to give.

The Trust U/W of Percival Lowell (the Trust) is a perpetual trust established for the benefit of the Observatory and is overseen by the Sole Trustee of the Observatory. Percival Lowell's will, which established the Trust, was executed on February 21, 1913, with its final codicil dated December 15, 1915. Percival Lowell died November 12, 1916. The Trust has been amended since that date.

The Lowell Observatory Foundation (the Foundation) was established on September 9, 2014 as a non-profit organization governed by an independent board of trustees and dedicated solely to supporting the Observatory's mission.

Principles of consolidation and combination:

The Trust is consolidated into the Observatory. The combined financial statements include the accounts of the Observatory and the Foundation (collectively the Organization). Due from related party and due to related party are obligations between the Observatory and the Foundation that will be satisfied in future years. All significant interorganizational accounts and transactions have been eliminated.

Estimates:

The preparation of combined financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the combined financial statements and the reported amounts of revenues, support, gains and expenses during the reporting period. On an ongoing basis, management evaluates its estimates, including those related to inputs used to recognize revenue over time. Actual results could differ materially from such estimates and assumptions.

## LOWELL OBSERVATORY

### NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)

#### YEARS ENDED DECEMBER 31, 2021 AND 2020

1. Description of organization and summary of significant accounting policies (continued):

Net assets:

Net assets, support, gains, and losses are classified based on the existence or absence of donor or grantor imposed restrictions. Accordingly, net assets and changes therein are classified and reported as follows:

- *Net assets without donor restrictions* - Net assets available for use in general operations and not subject to donor restrictions.
- *Net assets with donor restrictions* - Net assets subject to donor-imposed restrictions. Some donor-imposed restrictions are temporary in nature, such as those that will be met by the passage of time or other events specified by the donor. Other donor-imposed restrictions are perpetual in nature, where the donor stipulates that resources be maintained in perpetuity. Donor-imposed restrictions are released when a restriction expires, that is, when the stipulated time has elapsed, when the stipulated purpose for which the resource was restricted has been fulfilled, or both.

Revenue recognition:

Contracts with governmental and other agencies:

The Observatory has various contracts with governmental and other agencies. For contracts that have an exchange element, revenue is recognized over time as goods or services are transferred and expenditures for services under the provisions of the contract are incurred. Advances received from governmental funding sources in excess of costs incurred under the related exchange contracts are deferred and recognized as revenue when the related expenses are incurred using a cost-based input method. Deferred revenue from research contracts with an exchange element is a contract liability and is classified as deferred research grant revenue on the combined statements of financial position. At January 1, 2020, the balance of deferred research grant revenue was \$44,576. Revenue related to non-exchange contracts with governmental and other agencies is recognized as a contribution.

Telescope access fees:

Telescope access fees are charged to partnering universities for time on the Organization's telescopes in exchange transactions. Advances received from the partnering universities are recorded as deferred revenue. Revenue is recognized at a point in time in the period earned based on actual nights used. Deferred revenue from telescope access fees is a contract liability and is classified as deferred access fee revenue on the combined statements of financial position. At January 1, 2020, the balance of deferred access fee revenue was \$7,470,403.

Contributions:

Contributions are considered non-exchange transactions and are recognized in the appropriate category of net assets in the period received. Contributions of assets other than cash are recorded at their estimated fair value at the date of gift. Conditional promises to give are not recognized until the conditions on which they depend have been substantially met.

## LOWELL OBSERVATORY

### NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)

#### YEARS ENDED DECEMBER 31, 2021 AND 2020

1. Description of organization and summary of significant accounting policies (continued):

Revenue recognition (continued):

Public program revenue:

Public program revenue consists of exchange transactions recognized at a point in time when the related services are provided.

Donated goods and services:

Support arising from donated goods and services is recognized in the combined financial statements at its fair value. Donated services are recognized when the services received meet one of the following criteria:

- (a) create or enhance nonfinancial assets
- (b) require specialized skills, are provided by individuals possessing those skills, and would typically need to be purchased if not provided by donation.

Although the Organization utilizes the services of outside volunteers to perform a variety of tasks that assist the Organization, the fair value of all these services may not be reflected in the combined financial statements because the above criteria are not met.

Transaction price:

For exchange transactions, the transaction price is the amount of consideration the Organization expects to be entitled to in exchange for transferring goods and services to the customer. When a contract has a single performance obligation, the entire transaction price is attributed to that performance obligation. When a contract has more than one performance obligation, the transaction price is allocated to each performance obligation based on estimated relative standalone selling prices of the goods or services at the inception of the contract, which typically is determined using cost plus an appropriate margin.

Performance obligations:

Contracts that constitute exchange transactions are considered to contain a single performance obligation if the promise to transfer individual goods or services is not separately identifiable from other promises in the contracts primarily because the Organization provides a significant service of integrating a complex set of tasks and components into a single project or capability. A series of goods or services are a single performance obligation if the goods or services are substantially the same and each distinct good or service in the series will be satisfied over time and the same method would be used to measure progress towards satisfaction. Contracts that cover multiple performance phases of the product lifecycle (development, production, maintenance and support) are typically considered to have multiple performance obligations even when they are part of a single contract.

## LOWELL OBSERVATORY

### NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)

#### YEARS ENDED DECEMBER 31, 2021 AND 2020

1. Description of organization and summary of significant accounting policies (continued):

Revenue recognition (continued):

Performance obligations (continued):

For contracts with multiple performance obligations, the Organization allocates the transaction price to each performance obligation using the best estimate of the standalone selling price of each distinct good or service in the contract. The Organization invoices its customers over time as the performance obligations are satisfied. Payment is typically due within 30 days of invoice.

Contract combination and modification:

To determine proper revenue recognition for exchange transactions, the Organization evaluates whether two or more contracts should be combined and accounted for as a single contract and whether a combined or single contract should be accounted for as more than one performance obligation. This evaluation requires significant judgment, and the decision to combine contracts or separate a combined or single contract into multiple performance obligations could change the amount of revenue and profit recorded in a given period.

The Organization accounts for contract modifications as a separate contract when the modification results in the promise to deliver additional goods or services that are distinct and the increase in price of the contract is for the same amount as the stand-alone selling price of the additional goods or services included in the modification.

Cost and expense recognition:

Contract costs include direct labor, materials, and indirect costs related to contract performance, such as indirect labor, communications, technology and depreciation costs. Costs charged to certain contracts from government agencies include indirect costs and are subject to audit by the United States Department of the Interior, Interior Business Center, as directed by the Office of National Aeronautics and Space Administration.

Cash and cash equivalents:

All highly liquid debt instruments purchased with a maturity of three months or less are considered to be cash equivalents. All cash and cash equivalents are placed with various credit institutions. At times, such amounts may be in excess of the FDIC insurance limits; however, management does not believe they are exposed to any significant credit risk on cash and cash equivalents.

Restricted cash and cash equivalents consist of amounts received with donor-imposed restrictions. All donor-imposed restrictions on restricted cash and cash equivalents are temporary in nature.

LOWELL OBSERVATORY

NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)

YEARS ENDED DECEMBER 31, 2021 AND 2020

1. Description of organization and summary of significant accounting policies (continued):

Cash and cash equivalents (continued):

The following table provides a reconciliation of cash and cash equivalents, and restricted cash and cash equivalents reported on the combined statements of financial position to the combined statements of cash flows:

	<u>2021</u>	<u>2020</u>
Cash and cash equivalents	\$ 839,737	\$ 474,939
Restricted cash and cash equivalents	<u>3,038,607</u>	<u>796,970</u>
	<u>\$ 3,878,344</u>	<u>\$ 1,271,909</u>

The restrictions on cash and cash equivalents restricted by donors will lapse when the funds are spent on the related restricted purposes.

Investments:

Investments are carried at fair value. Donated investments are recorded at fair value at the date of gift. Investment gains and losses are included in the changes in net assets in the accompanying combined statements of activities as increases or decreases in net assets without donor restrictions unless their use is restricted by explicit donor-imposed stipulations or legal requirements net of related investment fees. Realized gains or losses on disposition of investments are recorded on a trade date basis using the specific identification method. Dividends and interest income are accrued when earned. Investments are considered to be impaired when a decline in fair value is judged to be other-than-temporary.

Fair value measurements:

Fair value is defined as the price to sell an asset or transfer a liability between market participants in an orderly exchange in the principal or most advantageous market for that asset or liability. The fair value for qualifying alternative investments is determined based on the investment's net asset value as a practical expedient. Considerable judgment is required in interpreting market data used to develop the estimates of fair value. Accordingly, the estimates presented in the combined financial statements are not necessarily indicative of the amounts that could be realized in a current market exchange. The use of different market assumptions and estimation methodologies may have a material effect on the estimated fair value.

Grants receivable:

The Organization records grants receivable for its unconditional rights to consideration arising from performance under contracts with customers that are primarily Federal Government agencies. The carrying value of such receivables, net of allowance for doubtful accounts, represents their estimated net realizable value. At January 1, 2020, the balance of grants receivable was \$319,429.



**LOWELL OBSERVATORY**

**NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)**

**YEARS ENDED DECEMBER 31, 2021 AND 2020**

1. Description of organization and summary of significant accounting policies (continued):

Grants receivable (continued):

The Organization grants unsecured credit without interest to governmental agencies. The Organization grants credit to all other customers, generally without collateral or interest. Grants receivable consist primarily of uncollateralized obligations from Federal Government agencies related to amounts earned but uncollected from the Organization's contracts with those agencies. Payments of grants receivable are applied to the specific invoices identified on the remittance advice, or if unspecified, to the earliest unpaid invoices.

Management considers all accounts over 30 days to be past due and provides an allowance for doubtful accounts based upon prior experience and management's assessment of the collectibility of specific accounts. Doubtful accounts are periodically reviewed for collectibility and charged against operations when management determines that all collection efforts have been exhausted. As of December 31, 2021 and 2020, receivable balances are considered fully collectible by management; therefore, no allowance for doubtful accounts has been provided.

Promises to give:

Unconditional promises to give are recognized as support at their estimated net realizable value in the period received. Promises to give that are collectible over future periods are discounted to their net present value. The provision for uncollectible promises to give is based on management's estimate of current economic factors, applied as a percentage of gross contribution revenues. Promises to give are periodically reviewed for collectibility and written off when determined uncollectible. At December 31, 2021 and 2020, promises to give are considered fully collectible, therefore, no allowance for uncollectible pledges has been provided.

Property and equipment:

Property and equipment are stated at cost except for donated equipment, which is recorded at its fair market value at the date of gift. Property and equipment with a value of greater than or equal to \$5,000 and a useful life of more than one year is capitalized. Depreciation is calculated using the straight-line method over the estimated useful lives of the assets.

Buildings and improvements	5 - 40 years
Equipment and computers	3 - 30 years
Furniture and fixtures	5 - 10 years
Vehicles	5 - 10 years

## LOWELL OBSERVATORY

### NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)

#### YEARS ENDED DECEMBER 31, 2021 AND 2020

1. Description of organization and summary of significant accounting policies (continued):

Impairment of long-lived assets:

The Organization reviews long-lived assets to be held and used for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. If the sum of the undiscounted expected future cash flows over the remaining useful life of the long-lived assets is less than the carrying amount, the asset is considered impaired. Impairment losses would be measured as the amount by which the carrying amount exceeds the fair value of the asset. There was no impairment of long-lived assets recognized for 2021 and 2020.

Collection item:

The Organization has ownership of a vintage car, which was donated to the Observatory by the Sole Trustee in 2002. The vehicle is capitalized based on its appraised value at the date of the unrestricted contribution.

Endowments:

The Organization's endowments consist of funds established under either donor restriction or as designated by the Trustees for a variety of purposes. As required by GAAP, net assets associated with endowment funds (including funds designated by the Trustees to function as endowments) are classified and reported based on the existence or absence of donor-imposed restrictions.

The Trustees of the Foundation have interpreted Arizona's Management of Charitable Funds Act (AMCFA), Arizona's enacted legislation of the Uniform Prudent Management of Institutional Funds Act (UPMIFA), as requiring the preservation of the fair value of the original gift, as of the gift date of the donor-restricted endowment funds, unless there are explicit donor stipulations to the contrary. As a result of this interpretation, the Organization retains in perpetuity (a) the original value of initial and subsequent gift amounts donated to the endowment and (b) any accumulations to the endowment made in accordance with the direction of the applicable donor gift instrument at the time the accumulation is added. Donor-restricted amounts not retained in perpetuity are subject to appropriation for expenditure by the Organization in a manner consistent with the standard of prudence prescribed by AMCFA and UPMIFA.

Program expense allocations:

The Organization's expenses are classified into functional expenses, which include program services and supporting services.

## LOWELL OBSERVATORY

### NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)

#### YEARS ENDED DECEMBER 31, 2021 AND 2020

1. Description of organization and summary of significant accounting policies (continued):

Program expense allocations (continued):

Program services are comprised of the following functional categories: research, technology, and public programs. Research encompasses all expenses to conduct research in all areas of astronomy, including studies of the sun, solar system, stars, exoplanets, galaxies and cosmology. This includes outlays related to contracts with governmental and other agencies. Technology includes the cost of servicing, maintaining and developing the telescopes, and the facilities and instruments used for research operations. It also integrates expenses related to telescope access fees. Public programs category is comprised of expenses to operate the education and outreach program provided to the general public, which includes tours, solar viewing, presentations, telescope viewing and camps.

Supporting services are comprised of the following functional categories: management and general and fundraising. Management and general provides the administrative support for the Organization. Fundraising incorporates costs associated with donor development, communications, compliance and generating donations for the Organization.

The combined financial statements report certain categories of expenses that are attributable to one or more program or supporting services of the Organization. Those expenses include depreciation, the Director's office, communications department, and information technology department. Depreciation is allocated based on a square footage basis, the Director's office is allocated based on a time and cost study of where efforts are made, certain costs of the communications department are allocated based on the benefit received, and the information technology department is allocated based on a cost study of specific technology utilized and the benefit received.

Advertising:

Advertising costs are expensed as incurred. Total advertising expense was \$41,945 and \$128,466 for 2021 and 2020.

Income taxes:

The Observatory, the Foundation, and the Trust are exempt from income taxes under both Internal Revenue Code (IRC) section 501(c)(3) and Arizona income tax laws. The Observatory is classified as other than a private foundation under IRC section 509(a)(1). The Foundation and the Trust are each classified as other than a private foundation under IRC section 509(a)(3) as a supporting organization of the Observatory. Income from certain activities not directly related to the Organization's tax-exempt purpose, however, may be subject to taxation as unrelated business taxable income (UBTI).

From time to time, the Organization may be subject to penalties and interest assessed by various taxing authorities, which are classified as general and administrative expenses if they occur.

**LOWELL OBSERVATORY**

**NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)**

**YEARS ENDED DECEMBER 31, 2021 AND 2020**

1. Description of organization and summary of significant accounting policies (continued):

Subsequent events:

The Organization's management has evaluated the events that have occurred subsequent to December 31, 2021 through April 1, 2022, the date that the combined financial statements were available to be issued.

2. Liquidity and availability of financial assets:

As part of the Organization's liquidity management, it has a policy to structure its financial assets to be available as its general expenditures, liabilities and other obligations come due. In addition, the Organization invests cash in excess of daily requirements in short-term investments. To help manage unanticipated liquidity needs, the Organization has also committed a line of credit in the amount of \$7.14 million, which it could draw upon. At December 31, 2021 the Organization could draw down an additional \$1.61 million.

The following reflects the Organization's financial assets as of the combined statement of financial position date, reduced by the amounts not available for general use within one year of the combined statement of financial position date because of contractual or donor-imposed restrictions.

	2021	2020
Cash and cash equivalents	\$ 839,737	\$ 474,939
Restricted cash and cash equivalents	3,038,607	796,970
Restricted certificates of deposit	6,760,301	4,808,558
Investments	31,256,687	24,392,521
Grants receivable	375,713	572,103
Estates and bequests receivable	3,900,000	-
Promises to give	13,293,800	14,572,835
Total financial assets	59,464,845	45,617,926
Promises to give scheduled to be collected in more than one year	(10,776,404)	(11,421,025)
Contractual or donor-imposed restrictions:		
Endowment funds	(8,187,575)	(6,649,798)
Other donor restrictions	(15,166,431)	(10,436,899)
Restricted certificates of deposit	(6,760,301)	(4,808,558)
Funds restricted by lender as collateral	(5,525,971)	(2,200,971)
Restricted cash and cash equivalents	(3,038,607)	(796,970)
Board designations:		
Endowment funds	(2,320,534)	(2,082,801)
Financial assets available to meet cash needs for general expenditures within one year	\$ 7,689,022	\$ 7,220,904

**LOWELL OBSERVATORY**

**NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)**

**YEARS ENDED DECEMBER 31, 2021 AND 2020**

3. Investments:

	2021	2020
Money market funds	\$ 3,602,610	\$ 1,679,107
Fixed income securities	3,838,572	3,929,288
Equity securities	21,130,714	17,874,623
Alternative investments	2,684,791	909,503
	31,256,687	24,392,521
Less investments with donor restrictions	28,935,069	22,220,045
	\$ 2,321,618	\$ 2,172,476

Investment income for the years ended December 31, 2021 and 2020 is as follows:

	2021	2020
Interest and dividends	\$ 443,036	\$ 414,570
Net realized and unrealized gain on investments	3,527,569	2,986,268
Investment fees	(123,944)	(116,632)
	\$ 3,846,661	\$ 3,284,206

4. Fair value measurements:

At December 31, 2021, the fair value of assets measured on a recurring basis is as follows:

	Fair value	Level 1	Practical expedient
Money market funds	\$ 3,602,610	\$ 3,602,610	\$ -
Fixed income securities	3,838,572	3,838,572	-
Equity securities:			
US large cap	13,704,068	13,704,068	-
US mid cap	1,791,776	1,791,776	-
US small cap	1,805,278	1,805,278	-
Developed international	1,698,868	1,698,868	-
Other	2,130,724	2,130,724	-
Alternative investments	2,684,791	-	2,684,791
	\$ 31,256,687	\$ 28,571,896	\$ 2,684,791

**LOWELL OBSERVATORY**

**NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)**

**YEARS ENDED DECEMBER 31, 2021 AND 2020**

4. Fair value measurements (continued):

At December 31, 2020, the fair value of assets measured on a recurring basis is as follows:

	Fair value	Level 1	Practical expedient
Money market funds	\$ 1,679,107	\$ 1,679,107	\$ -
Fixed income securities	3,929,288	3,929,288	-
Equity securities:			
US large cap	11,553,203	11,553,203	-
US mid cap	1,763,059	1,763,059	-
US small cap	1,157,868	1,157,868	-
Developed international	1,606,444	1,606,444	-
Other	1,794,049	1,794,049	-
Alternative investments	909,503	-	909,503
	\$ 24,392,521	\$ 23,483,018	\$ 909,503

The assets in the preceding tables were measured primarily using the market approach. Following is a description of the valuation methodologies used for assets measured at fair value. The asset's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Transfers between levels are recorded at the beginning of the reporting period in which they occur. Valuation techniques used maximize the use of observable inputs and minimize the use of unobservable inputs:

Level 1 - Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the Organization has the ability to access.

Practical Expedient - Investments for which fair value is measured at net asset value per share (or its equivalent). Due to the inherent uncertainty of these estimates, these values may differ materially from the values that would have been used had a ready market for these investments existed.

The fair value of the Organization's investments are valued at the closing price reported on the active market on which the individual securities are traded except for the alternative investments. The Organization's alternative investments are valued based on their net asset value using the practical expedient. The alternative investments consist primarily of offshore investment funds that provide investment exposure to global equity, bond, currency and commodity markets and fixed-income securities, without quoted prices. The funds may invest in instruments that provide economic exposure to developed and emerging market issuers. These investments have restrictions on redemptions consisting of lock up periods of up to 65 days. No unfunded commitments exist related to these investments.

**LOWELL OBSERVATORY**

**NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)**

**YEARS ENDED DECEMBER 31, 2021 AND 2020**

5. Promises to give:

Promises to give consist of pledges from foundations and individual donors. At December 31, 2021 and 2020, promises to give are as follows:

	2021	2020
Pledges receivable in less than one year	\$ 2,517,396	\$ 3,151,810
Pledges receivable in one to five years	6,830,217	6,653,429
Pledges receivable in more than five years	4,999,440	5,496,802
Less unamortized discount to present value	(1,053,253)	(729,206)
	13,293,800	14,572,835
Less current portion	2,517,396	3,151,810
Noncurrent portion	\$ 10,776,404	\$ 11,421,025

Long-term promises to give are discounted to their present value using the ten year treasury rate (1.89% and 1.46% at December 31, 2021 and 2020). During 2021, a promise to give of \$241,143 could not be fulfilled by the donor and was written off. This amount is included in bad debt expense.

At December 31, 2021, 87% of promises to give are from three donors. At December 31, 2020, 84% of promises to give are from two donors.

6. Property and equipment:

	2021	2020
Land	\$ 445,917	\$ 445,917
Buildings and improvements	27,503,607	27,499,997
Equipment and computers	40,721,672	41,824,011
Furniture and fixtures	282,508	638,448
Vehicles	355,221	356,553
Construction in progress	6,974,303	2,823,764
	76,283,228	73,588,690
Less accumulated depreciation	26,479,680	25,975,807
	\$ 49,803,548	\$ 47,612,883

**LOWELL OBSERVATORY**

**NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)**

**YEARS ENDED DECEMBER 31, 2021 AND 2020**

7. Note payable, bank:

The Organization has a \$7,140,000 revolving line of credit note (the Note) with BNY. The Note calls for monthly interest only payments at the monthly LIBOR rate (0.09% and 0.15% at December 31, 2021 and 2020) with a floor of 0.90% and matures in March 2023. The Note is collateralized by investment assets of the Organization. The Organization had an outstanding balance of \$5,525,971 and \$2,200,971 related to this line of credit at December 31, 2021 and 2020.

The Organization is required to be in compliance with certain non-financial covenants.

8. Long-term debt:

	2021	2020
Note payable, Small Business Administration, interest at 2.75%, payable in aggregate monthly installments of \$2,205 beginning May 2022 through May 2050, collateralized by all assets of the Company. Installment payments are first applied to accrued interest until May 2022. Starting with June 2022, the installment payments will apply to principal and interest.	<u>\$ 500,000</u>	<u>\$ 150,000</u>

Future maturities of long-term debt are as follows:

Year ending <u>December 31,</u>	
2022	\$ -
2023	5,780
2024	12,995
2025	13,395
2026	13,768
Thereafter	<u>454,062</u>
	<u>\$ 500,000</u>

In March 2022, the Organization received an additional \$1,500,000 from the Small Business Administration. Under the revised loan, interest at 2.75%, is payable in aggregate monthly installments of \$8,672 beginning May 2022 through May 2050.



## LOWELL OBSERVATORY

### NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)

#### YEARS ENDED DECEMBER 31, 2021 AND 2020

9. Paycheck Protection Program loan:

The Organization obtained a \$1,413,200 loan from Western Alliance Bank Lending under the Paycheck Protection Program (PPP) in May 2020. Under the terms of the PPP, up to 100% of the loan (and related interest) may be forgiven if the proceeds are used for covered expenses and certain other requirements related to wage rates and maintenance of full-time equivalents are met. The Organization applied for forgiveness with the lender on November 23, 2020 and received forgiveness of \$1,413,200 from the Small Business Administration (SBA) on December 31, 2020.

The Organization received a Second Draw PPP loan in February 2021 in the amount of \$1,297,640 from Western Alliance Bank Lending. The conditions of use and forgiveness of the loan are consistent with the original PPP loan. The Organization applied for forgiveness with the lender on October 26, 2021 and received forgiveness of \$1,297,640 from the Small Business Administration (SBA) on February 1, 2022.

The Organization accounts for the PPP loan as a conditional contribution in accordance with ASC 958-605. The contribution is conditional based on the Organization incurring covered expenses, maintaining employee count, and limiting salary reductions. During the year ended December 31, 2021 and 2020, \$1,297,640 and \$1,413,200 was recognized as support based on the assessment of conditions that have been met.

The SBA may undertake a review of a loan of any size during the six-year period following forgiveness or repayment of the loan. The review may include the loan forgiveness application, eligibility for the program, as well as whether the Organization received the proper loan amount. The timing and outcome of any SBA review is not known.

10. Deferred access fee revenue:

The Organization has entered into a series of agreements to provide several educational institutions access to its telescopes. Under the terms of the agreements, the institutions are required to provide prescribed levels of financial support in exchange for nights of telescope use. Deferred access fee revenue represents amounts received from the institutions for nights not yet provided. At December 31, 2021 and 2020 deferred access fee revenue totaled \$6,600,756 and \$7,409,621.

**LOWELL OBSERVATORY**

**NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)**

**YEARS ENDED DECEMBER 31, 2021 AND 2020**

11. Net assets with donor restrictions:

Net assets with donor restrictions are restricted for the following purposes or periods.

	2021	2020
Subject to expenditure for specified purpose:		
Improvements and maintenance	\$ 23,906,658	\$ 20,936,758
Marketing	19,226	25,000
Exhibits, education and outreach, and other public programs	350,776	337,413
Research	1,867,977	558,754
Funds held in Trust U/W of Percival Lowell to be used for Observatory purposes	30,771,520	27,582,911
	56,916,157	49,440,836
Endowments:		
Earnings are subject to appropriation and expenditure for specified purposes:		
Endowment fund	47,017	35,909
ADC endowment fund	12,469	10,921
Exploration fund, subject to reversionary agreement	83,479	75,260
Exploration fund, not subject to reversionary agreement	2,040,996	1,843,785
Giovale endowed fund for astronomical research	610,965	555,355
GODO endowment fund	383,398	73,047
Historic preservation fund, subject to reversionary agreement	1,127	1,125
Historic preservation fund, not subject to reversionary agreement	64,593	48,314
Inspiration fund, subject to reversionary agreement	2,559	2,161
Inspiration fund, not subject to reversionary agreement	6,438	4,742
Instrumentation fund, subject to reversionary agreement	813,915	738,852
Instrumentation fund, not subject to reversionary agreement	1,968	1,784
Marcus cometary research fund	405,009	366,557
Mars Hill fund, not subject to reversionary agreement	91,237	70,970
Millennium fund, subject to reversionary agreement	2,409,974	2,191,168
Native American astronomy outreach fund, not subject to reversionary agreement	489,705	410,312
Robert M. Ayers Education Fund, subject to reversionary agreement	439,611	-
Waddell fund, not subject to reversionary agreement	118,423	107,674
Young scholar fund	164,692	111,862
Total endowments	8,187,575	6,649,798
	\$ 65,103,732	\$ 56,090,634

**LOWELL OBSERVATORY**

**NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)**

**YEARS ENDED DECEMBER 31, 2021 AND 2020**

12. Endowments:

The Organization's endowment consists of the Millennium Fund and fourteen other perpetually restricted funds. Investment earnings related to the endowed assets are restricted for prescribed operating purposes.

Reversionary agreement governing the Millennium Fund:

In 2000, the Lowell Millennium Fund (the Fund) was created to be a fund for the benefit of the Observatory. The Fund received both gifts without restrictions and gifts with perpetual restrictions from outside parties. The Observatory, through the Executive Committee of the Lowell Observatory Advisory Board, determined that it would consider all of the Fund as an endowment fund and began to administer it in that manner. When the Foundation was created, the Executive Committee contributed the Fund to the Foundation, but retained the right to compel its return in the future at the discretion of the Executive Committee.

Reversionary agreements relative to certain other Foundation endowment funds:

Since the creation of the Foundation, the Observatory has been the recipient of other gifts that were received without donor restrictions, which it then, subsequently, donated to the Foundation with restrictions consistent with the requirements and stipulations of certain of the Foundation's endowment funds. By agreement between the Observatory and the Foundation, the Observatory can, at any time, compel the return of these funds to the Observatory by written request.

In both cases, because the assets held by the Foundation are restricted by the terms of their contribution to the Foundation as only having the income available to benefit the Observatory, they are all recorded as perpetually restricted. At December 31, 2021 and 2020, these funds comprised 46% and 45% of the Foundation's perpetually restricted net assets.

Changes in endowment net assets for the year ended December 31, 2021 are as follows:

	<u>Without donor restrictions</u>	<u>With donor restrictions</u>	<u>Total</u>
Endowment net assets, beginning	\$ 2,082,801	\$ 6,649,798	\$ 8,732,599
Investment return, net fees	292,084	929,026	1,221,110
Contributions	13,393	113,060	126,453
Distributions	(67,744)	(243,920)	(311,664)
Transfers of net assets	-	739,611	739,611
	<u>\$ 2,320,534</u>	<u>\$ 8,187,575</u>	<u>\$ 10,508,109</u>

**LOWELL OBSERVATORY**

**NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)**

**YEARS ENDED DECEMBER 31, 2021 AND 2020**

12. Endowments (continued):

Changes in endowment net assets for the year ended December 31, 2020 are as follows:

	Without donor restrictions	With donor restrictions	Total
Endowment net assets, beginning	\$ -	\$ 5,912,722	\$ 5,912,722
Investment loss, net fees	252,198	508,323	760,521
Contributions	1,830,603	447,993	2,278,596
Distributions	-	(219,240)	(219,240)
Endowment net assets, ending	<u>\$ 2,082,801</u>	<u>\$ 6,649,798</u>	<u>\$ 8,732,599</u>

Funds with deficiencies:

From time to time, certain donor-restricted endowment funds may have fair values less than the amount required to be maintained by donors or by law (underwater endowments). We have interpreted UPMIFA to permit spending from underwater endowments in accordance with prudent measures required under law. As of December 31, 2021 and 2020, there were no deficiencies of this nature.

Return objectives and risk parameters:

The Organization has adopted investment policies including those for endowment assets that attempt to preserve the capital, preserve the purchasing power, and achieve long-term growth of capital of the endowment assets. Endowment assets include those assets of donor-restricted funds that the organization must hold in perpetuity or for a donor-specified period(s). Under these policies all assets including endowment assets are invested in a manner that is intended to produce results that exceed various external benchmarks while assuming a moderate level of investment risk. Actual returns in any given year may vary from this amount.

Spending policy and how the investment objectives relate to spending policy:

The Trust and Foundation have spending policies in place whereby amounts are appropriated based on determination of certain criteria to include the preservation of the endowment corpus, consideration of economic conditions, effects of inflation and deflation and the expected return from income and appreciation of investments.

The spending policy over the Trust endowments utilizes a total return approach.

The spending policy over the Foundation endowments also utilizes a total return approach, but provides for appropriations (currently a 4% rate annually) which may be made regardless of whether an Endowment Fund has sufficient current period and/or accumulated net investment returns but after taking into consideration the criteria specified above.

## LOWELL OBSERVATORY

### NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)

#### YEARS ENDED DECEMBER 31, 2021 AND 2020

13. Retirement plans:

The Organization has a contributory 403(B) retirement plan historically held at Teachers' Insurance and Annuity Association. The last contributions sent to TIAA were in December 2016. Beginning in December 2016 new contributions were sent to Mutual of America. Beginning in 2017 the plan documents were changed and eligible employees may voluntarily participate in the plan. As of July 2020, the Observatory contributes 1%-5% of gross earnings, up to the Internal Revenue Service maximum allowable, when the employee contributes 1%-5% of gross earnings. Previously the Observatory matching contribution was a set 5%, when the employee contributes 5% or more. The Organization made contributions of \$346,388 and \$316,900 to the plan during the years ended December 31, 2021 and 2020.

14. Contingencies:

For the years ended December 31, 2021 and 2020, substantially all of the Organization's grant revenue and receivables are comprised of revenue derived from federal agencies. A significant reduction in the level of this support, if it were to occur, would have a material effect on the programs and activities of the Organization. The governmental funding is subject to compliance audits by the respective governmental agencies. Assessments from such audits, if any, are recorded when the amounts of such assessments are reasonably determinable.

15. Statement of cash flows:

Supplemental disclosure of cash flow information:

Cash paid for interest was \$76,564 and \$72,177 for the years ended December 31, 2021 and 2020.

16. Reclassifications:

The 2020 combined financial statements have been reclassified in order to conform to the 2021 combined financial statement presentation. The reclassifications had no effect on net assets at December 31, 2020 or on the change in net assets for the year then ended.

**LOWELL OBSERVATORY**

**NOTES TO COMBINED FINANCIAL STATEMENTS (CONTINUED)**

**YEARS ENDED DECEMBER 31, 2021 AND 2020**

17. Pending pronouncement:

In February 2016, the FASB issued ASU 2016-02 "Leases." ASU 2016-02 requires a lessee to recognize in the statement of financial position a liability to make lease payments and a right-of-use asset representing its right to use the underlying asset for the lease term, along with additional qualitative and quantitative disclosures. ASU 2016-02 is effective for reporting periods beginning after December 15, 2022, with early adoption permitted. Management is currently evaluating the effect that this standard will have on the combined financial statements.

**LOWELL OBSERVATORY**

**COMBINING STATEMENT OF FINANCIAL POSITION**

**DECEMBER 31, 2021**

	Lowell Observatory and Trust	Lowell Observatory Foundation	Eliminating	Combined total
<b>ASSETS</b>				
Current assets:				
Cash and cash equivalents	\$ 784,145	\$ 55,592	\$ -	\$ 839,737
Restricted cash and cash equivalents	2,976,916	61,691	-	3,038,607
Restricted certificates of deposit	6,760,301	-	-	6,760,301
Investments	1,084	2,320,534	-	2,321,618
Grants receivable	375,713	-	-	375,713
Promises to give, current portion	2,517,246	150	-	2,517,396
Estate and bequests receivable	3,900,000	-	-	3,900,000
Other current assets	<u>1,171,332</u>	<u>-</u>	<u>-</u>	<u>1,171,332</u>
Total current assets	<u>18,486,737</u>	<u>2,437,967</u>	<u>-</u>	<u>20,924,704</u>
Property and equipment, net	49,803,548	-	-	49,803,548
Due from related party	35,790	-	(35,790)	-
Promises to give, net of current portion	10,677,365	99,039	-	10,776,404
Collection item	400,000	-	-	400,000
Assets limited to use:				
Investments with donor restrictions	<u>20,593,327</u>	<u>8,341,742</u>	<u>-</u>	<u>28,935,069</u>
Total noncurrent assets	<u>81,510,030</u>	<u>8,440,781</u>	<u>(35,790)</u>	<u>89,915,021</u>
Total assets	<u>\$ 99,996,767</u>	<u>\$ 10,878,748</u>	<u>\$ (35,790)</u>	<u>\$ 110,839,725</u>

**LIABILITIES AND NET ASSETS**

Current liabilities:				
Accounts payable	\$ 687,451	\$ -	\$ -	\$ 687,451
Accrued expenses and other current liabilities	93,789	-	-	93,789
Current portion of deferred access fee revenue	1,433,332	-	-	1,433,332
Due to related party	<u>-</u>	<u>35,790</u>	<u>(35,790)</u>	<u>-</u>
Total current liabilities	<u>2,214,572</u>	<u>35,790</u>	<u>(35,790)</u>	<u>2,214,572</u>
Note payable, bank	5,525,971	-	-	5,525,971
Long-term debt	500,000	-	-	500,000
Deferred research grant revenue	48,420	-	-	48,420
Deferred access fee revenue, net of current portion	<u>5,167,424</u>	<u>-</u>	<u>-</u>	<u>5,167,424</u>
Total liabilities	<u>13,456,387</u>	<u>35,790</u>	<u>(35,790)</u>	<u>13,456,387</u>
Contingencies				
Net assets:				
Without donor restrictions:				
Net invested in property and equipment	44,277,577	-	-	44,277,577
Undesignated	(14,339,557)	21,052	-	(14,318,505)
Board designated	<u>-</u>	<u>2,320,534</u>	<u>-</u>	<u>2,320,534</u>
Total	<u>29,938,020</u>	<u>2,341,586</u>	<u>-</u>	<u>32,279,606</u>
With donor restrictions	<u>56,602,360</u>	<u>8,501,372</u>	<u>-</u>	<u>65,103,732</u>
Total net assets	<u>86,540,380</u>	<u>10,842,958</u>	<u>-</u>	<u>97,383,338</u>
Total liabilities and net assets	<u>\$ 99,996,767</u>	<u>\$ 10,878,748</u>	<u>\$ (35,790)</u>	<u>\$ 110,839,725</u>

**LOWELL OBSERVATORY**

**COMBINING STATEMENT OF ACTIVITIES**

**YEAR ENDED DECEMBER 31, 2021**

	Lowell Observatory and Trust	Lowell Observatory Foundation	Eliminating	Combined total
Revenues, support and gains:				
Contracts with governmental and other agencies	\$ 4,231,559	\$ -	\$ -	\$ 4,231,559
Telescope access fees	2,071,708	-	-	2,071,708
Contributions	17,164,643	103,363	-	17,268,006
Public program revenue	1,372,759	-	-	1,372,759
Investment income, net	2,605,928	1,240,733	-	3,846,661
Other income	320,597	-	-	320,597
	<u>27,767,194</u>	<u>1,344,096</u>	<u>-</u>	<u>29,111,290</u>
Expenses:				
Program services:				
Research	5,194,696	-	-	5,194,696
Technology	4,531,685	-	-	4,531,685
Public programs	3,046,364	-	-	3,046,364
	<u>12,772,745</u>	<u>-</u>	<u>-</u>	<u>12,772,745</u>
Support services:				
Management and general	1,418,127	9,826	-	1,427,953
Fundraising	1,344,162	251,392	-	1,595,554
	<u>2,762,289</u>	<u>261,218</u>	<u>-</u>	<u>3,023,507</u>
	<u>15,535,034</u>	<u>261,218</u>	<u>-</u>	<u>15,796,252</u>
Change in net assets before transfers	12,232,160	1,082,878	-	13,315,038
Transfers of net assets	<u>(184,716)</u>	<u>184,716</u>	<u>-</u>	<u>-</u>
Change in net assets	<u>\$ 12,047,444</u>	<u>\$ 1,267,594</u>	<u>\$ -</u>	<u>\$ 13,315,038</u>



**LOWELL OBSERVATORY**  
**SINGLE AUDIT REPORTS**  
**YEAR ENDED DECEMBER 31, 2021**

**LOWELL OBSERVATORY**  
**SINGLE AUDIT REPORTS**  
**YEAR ENDED DECEMBER 31, 2021**

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**INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL  
OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS  
BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED  
IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS***

Sole Trustee and Management  
Lowell Observatory  
Flagstaff, Arizona

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the combined financial statements of Lowell Observatory (the Organization), which comprise the combined statement of financial position as of December 31, 2021, and the related combined statements of activities, functional expenses and cash flows for the year then ended, and the related notes to the combined financial statements, and have issued our report thereon dated April 1, 2022.

**Report on Internal Control over Financial Reporting**

In planning and performing our audit of the combined financial statements, we considered the Organization's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the combined financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Organization's internal control. Accordingly, we do not express an opinion on the effectiveness of the Organization's internal control.

*A deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements, on a timely basis. *A material weakness* is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Organization's combined financial statements will not be prevented, or detected and corrected, on a timely basis. *A significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that were not identified.

## Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Organization's combined financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the combined financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

### Purpose of This Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Organization's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Organization's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

*BeachFleischman PLLC*

Tucson, Arizona  
April 1, 2022

**INDEPENDENT AUDITORS' REPORT ON COMPLIANCE FOR EACH MAJOR PROGRAM,  
ON INTERNAL CONTROL OVER COMPLIANCE, AND ON THE SCHEDULE OF EXPENDITURES  
OF FEDERAL AWARDS REQUIRED BY THE UNIFORM GUIDANCE**

Sole Trustee and Management  
Lowell Observatory  
Flagstaff, Arizona

**Report on Compliance for Each Major Federal Program**

***Opinion on Each Major Federal Program***

We have audited Lowell Observatory's (the Organization) compliance with the types of compliance requirements identified as subject to audit in the *OMB Compliance Supplement* that could have a direct and material effect on each of the Organization's major federal programs for the year ended December 31, 2021. The Organization's major federal programs are identified in the summary of auditors' results section of the accompanying schedule of findings and questioned costs.

In our opinion, the Organization complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended December 31, 2021.

***Basis for Opinion on Each Major Federal Program***

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of *Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Our responsibilities under those standards and the Uniform Guidance are further described in the Auditors' Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the Organization and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for each major federal program. Our audit does not provide a legal determination of the Organization's compliance with the compliance requirements referred to above.

### ***Responsibilities of Management for Compliance***

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules, and provisions of contracts or grant agreements applicable to the Organization's federal programs.

### ***Auditors' Responsibilities for the Audit of Compliance***

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the Organization's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards, *Government Auditing Standards*, and the Uniform Guidance will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the Organization's compliance with the requirements of each major federal program as a whole.

In performing an audit in accordance with generally accepted auditing standards, *Government Auditing Standards*, and the Uniform Guidance, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the Organization's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- Obtain an understanding of the Organization's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of the Organization's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

## **Other Matters**

The results of our auditing procedures disclosed an instance of noncompliance, which is required to be reported in accordance with the Uniform Guidance and which is described in the accompanying schedule of findings and questioned costs as item 2021-001. Our opinion on each major federal program is not modified with respect to this matter.

*Government Auditing Standards* requires the auditor to perform limited procedures on the Organization's response to the noncompliance finding identified in our audit described in the accompanying schedule of findings and questioned costs. The Organization's response was not subjected to the other auditing procedures applied in the audit of compliance and, accordingly, we express no opinion on the response.

## **Report on Internal Control Over Compliance**

*A deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the Auditors' Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, the report is not suitable for any other purpose.

## Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

We have audited the combined financial statements of the Organization as of and for the year ended December 31, 2021, and have issued our report thereon dated April 1, 2022, which contained an unmodified opinion on those combined financial statements. Our audit was performed for the purpose of forming an opinion on the combined financial statements as a whole. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the combined financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the combined financial statements. The information has been subjected to the auditing procedures applied in the audit of the combined financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the combined financial statements or to the combined financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated in all material respects in relation to the combined financial statements as a whole.

*BeachFleischman PLLC*

Tucson, Arizona  
April 1, 2022



**LOWELL OBSERVATORY**

**SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS**

**YEAR ENDED DECEMBER 31, 2021**

<u>Federal Grant/Pass-Through Grantor/ Program or Cluster Title</u>	<u>Grant number</u>	<u>Pass-through entity identifying number</u>	<u>Federal assistance listing number (ALN)</u>	<u>Passed through to subrecipients</u>	<u>Federal expenditures</u>
Research and Development - Cluster					
<u>National Aeronautics and Space Administration</u>					
Science:					
Direct awards:					
NASA Headquarters	81094	80NSSC18K0856	43.001	\$ -	\$ 130,317
NASA Headquarters	81105	80NSSC19K0556	43.001	150,890	160,547
NASA Headquarters	81130	80NSSC19K0289	43.001	60,898	97,277
NASA Headquarters	81210	NNX16AQ02G	43.001	18,947	43,079
NASA Headquarters	81211	80NSSC21K1828	43.001	-	1,744
NASA Headquarters	81325	80NSSC20K1001	43.001	47,633	89,121
NASA Headquarters	81405	NNX17AF13G	43.001	-	22,459
NASA Headquarters	81420	80NSSC18K0729	43.001	77,159	130,335
NASA Headquarters	81490	NNX16AJ51G	43.001	1,061	60,076
NASA Headquarters	81495	80NSSC18K0203	43.001	10,764	59,229
NASA Headquarters	81502	NNX17AH06G	43.001	64,781	174,155
NASA Headquarters	81503	80NSSC21K1328	43.001	-	668
NASA Headquarters	81506	80NSSC19K0420	43.001	-	192,603
NASA Headquarters	81509	NNX16AK68G	43.001	-	7,696
NASA Headquarters	81520	NNX15AJ82G	43.001	<u>3,314</u>	<u>3,314</u>
Total direct NASA				<u>435,447</u>	<u>1,172,620</u>
Pass-through awards:					
NASA JPL/CalTech	82450	FFP 1663758	43.001	-	26,599
NASA JPL/CalTech	82808	RSA 1645394	43.001	-	14,180
NASA JPL/CalTech	82807	RSA 1633811	43.001	-	7,595
Space Telescope Science Institute	73707	HST-GO-14707.001-A	43.001	-	45,240
Space Telescope Science Institute	73821	HST-GO-13667.007-A	43.001	-	18,844
Space Telescope Science Institute	73823	HST-GO-14928.004-A	43.001	-	45,516
Space Telescope Science Institute	73825	HST-GO-15144.004-A	43.001	-	7,841
Space Telescope Science Institute	73826	HST-GO-15142.003-A	43.001	-	21,599
Space Telescope Science Institute	73827	HST-GO-15207.005-A	43.001	-	428
Space Telescope Science Institute	73828	HST-GO-15233.001-A	43.001	-	955
Boston University	78310	4500002707	43.001	-	5,076
Johns Hopkins Applied Physics Lab	78502	#128572	43.001	-	4,456
Johns Hopkins Applied Physics Lab	78505	#162333	43.001	-	39,977
Southwest Research Institute	78415	#K99090JRG	43.001	-	4,703
Southwest Research Institute	78420	#K99058JRG	43.001	-	11,559
Southwest Research Institute	78425	#K99038MEC	43.001	-	6,764
Southwest Research Institute	78426	M99055DS	43.001	-	78
Southwest Research Institute	78431	#278981Q	43.001	-	55,020
Planetary Science Institute	78440	#1374	43.001	-	16,403
Planetary Science Institute	78446	#1641	43.001	-	781
Made in Space	78460	C1001.21L	43.001	-	37,917
William Marsh Rice University	78450	X03017904	43.001	-	977

**LOWELL OBSERVATORY**

**SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS (CONTINUED)**

**YEAR ENDED DECEMBER 31, 2021**

Federal Grant/Pass-Through Grantor/ Program or Cluster Title	Grant number	Pass-through entity identifying number	Federal assistance listing number (ALN)	Passed through to subrecipients	Federal expenditures
Research and Development - Cluster (continued)					
<u>National Aeronautics and Space Administration</u>					
Science:					
Pass-through awards (continued):					
San Francisco State University	78480	S21-0002	43.001	\$ -	\$ 4,981
Total pass-through NASA				-	377,489
Total - NASA				435,447	1,550,109
<u>National Science Foundation</u>					
Mathematical and Physical Sciences:					
Direct awards:					
National Science Foundation	83005	AST-1907492	47.049	72,402	114,271
National Science Foundation	83012	AST-2025202	47.049	-	52,945
National Science Foundation	83020	AST-1944827	47.049	71,794	228,488
National Science Foundation	83050	AST-1734484	47.049	-	66,887
National Science Foundation	83070	AST-2009343	47.049	-	37,775
National Science Foundation	83075	AST-2009501	47.049	-	15,432
National Science Foundation	83090	AST-1616084	47.049	28,089	30,841
National Science Foundation	83116	AST-1612874	47.049	-	2,088
National Science Foundation	83130	AST-2109179	47.049	-	16,414
Total National Science Foundation				172,285	565,141
<u>Department of Defense</u>					
Basic and Applied Scientific Research:					
Direct awards:					
Naval Research Laboratory	75115, 75120, 75125	N00173-16-2-C904	12.300	-	1,547,820
Total Department of Defense				-	1,547,820
Total Research and Development - Cluster				607,732	3,663,070
Total expenditures of federal awards				\$ 607,732	\$ 3,663,070

## LOWELL OBSERVATORY

### NOTES TO SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS

YEAR ENDED DECEMBER 31, 2021

1. Basis of presentation:

The accompanying Schedule of Expenditures of Federal Awards (the Schedule) includes the federal award activity of Lowell Observatory (the Organization) under programs of the federal government for the year ended December 31, 2021. The information in this Schedule is presented in accordance with the requirements of *Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance)*. Because the Schedule presents only a selected portion of the operations of Lowell Observatory, it is not intended to and does not present the combined financial position, changes in net assets or cash flows of the Organization.

2. Summary of significant accounting policies:

Expenditures reported on the Schedule are reported on the accrual basis of accounting. Such expenditures are recognized following the cost principles contained in the Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement.

The Organization has not elected to use the ten percent de minimis indirect cost rate as allowed under the Uniform Guidance.

3. Federal assistance listing numbers (ALN):

The program titles and ALN numbers or federal identification numbers were obtained from the federal or pass-through grantor or the update to the *2021 Catalog of Federal Domestic Assistance*.

LOWELL OBSERVATORY

SCHEDULE OF FINDINGS AND QUESTIONED COSTS

YEAR ENDED DECEMBER 31, 2021

SUMMARY OF AUDITORS' RESULTS

*Financial Statements*

The auditors' report expressed an unmodified opinion on whether the combined financial statements of Lowell Observatory were prepared in accordance with accounting principles generally accepted in the United States of America.

Internal control over financial reporting:

Material weakness(es) identified?  Yes  No  
Significant deficiency(ies) identified?  Yes  None reported

Noncompliance material to financial statements noted?  Yes  No

*Federal Awards*

Internal control over major federal programs:

Material weakness(es) identified?  Yes  No  
Significant deficiency(ies) identified?  Yes  None reported

The auditors' report on compliance for the major federal awards program of Lowell Observatory expressed an unmodified opinion on its major programs.

Audit findings that are required to be reported in accordance with 2 CFR 200.516(a) are reported in the Schedule.

Identification of major federal programs:

Research and Development Cluster:  
Science ALN 43.001  
Mathematical and Physical Sciences ALN 47.049  
Basic and Applied Scientific Research ALN 12.300

Dollar threshold used to distinguish between Type A and Type B programs: \$750,000

Auditee qualified as a low-risk auditee?  Yes  No

**LOWELL OBSERVATORY**

**SCHEDULE OF FINDINGS AND QUESTIONED COSTS (CONTINUED)**

**YEAR ENDED DECEMBER 31, 2021**

**FINDINGS - FINANCIAL STATEMENT AUDIT**

None

LOWELL OBSERVATORY

SCHEDULE OF FINDINGS AND QUESTIONED COSTS (CONTINUED)

YEAR ENDED DECEMBER 31, 2021

FINDINGS AND QUESTIONED COSTS - MAJOR FEDERAL AWARD PROGRAMS AUDIT

2021-001 **Assistance Listing Number and Title:** Research and Development Cluster, ALN 43.001, 47.049, 12.300  
**Federal Agency:** National Aeronautics and Space Administration  
**Grant period:** Year ended December 31, 2021

*Criteria:*

Subrecipient monitoring - Monitoring should include review of the subrecipient's single audit reports.

*Condition:*

We were not able to verify management's annual monitoring of subrecipient's single audit took place.

*Cause:*

The monitoring of subrecipients was not documented on the Organization's tracking form.

*Effect:*

Risk assessment of subrecipients is not substantiated.

*Context:*

The tracking form for four subrecipients were reviewed. There was no documentation of review of the subrecipient's annual single audit.

*Questioned costs:*

None

*Repeat Finding:*

No

*Recommendation:*

We recommend the Organization adhere to its policies and procedures for subrecipient monitoring.

*Views of responsible officials of the auditee:*

Lowell Observatory agrees that subrecipient monitoring is an important ongoing responsibility to document appropriate use of Federal Awards. For that purpose a monitoring worksheet has been developed to record dates that monitoring happens, at least annually. Review of subrecipient single audits is scheduled for November each year. Occasionally subrecipients have not yet posted their single audits to their website by the end of November. In those circumstances an email will be sent to the grant office at the organization to check on it. This is the responsibility of the grants administrator and may be delegated when necessary, or as our accounting staff grows.

**LOWELL OBSERVATORY**

**SUMMARY SCHEDULE OF PRIOR YEAR FINDINGS**

**YEAR ENDED DECEMBER 31, 2021**

None