



## Program Review All Fields

### Curriculum Division 50 - Career Technical Education - Water Resources Management

#### Main

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Questions? Find answers in [CurricUNET User Manual](#).

Overview

Academic Year 2022 - 2023

Originator Miettinen Ames, Catherine

Division Division 50 - Career Technical Education

Department Water Resources Management

#### Co-Contributors

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Questions? Find answers in [CurricUNET User Manual](#).

Contributor

Open the Form Properties to select co-contributors and assign permissions.

#### Program Mission and Accomplishments

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##### Gavilan College Mission Statement

Gavilan College actively engages, empowers and enriches students of all backgrounds and abilities to build their full academic, social, and economic potential.

Provide a brief overview of how the program contributes to accomplishing the mission of Gavilan College. In addition to a basic overview of your program's structure and services, be specific in connecting your program's services to elements of the mission statement (300 words or less).

Gavilan College actively engages, empowers and enriches students of all backgrounds and abilities to build their full academic, social, and economic potential. Gavilan's Water Resources Management (WRM) programs; address severe shortages of water/wastewater technicians; and improve equity for women and students of color in the industry. A growing shortage of trained water management technicians throughout the State of California. Water/wastewater systems, municipal and industrial, are critical to the health and economic vitality of California (ASCE, 2021). Gavilan's WRM program offers the only comprehensive academic water resources management program in the Bay Area, delivered online and/ or hybrid and/or classroom/lab instructions. By pairing on-the-job training with classroom instruction, through internships and apprenticeships, will help meet industry's needs for skilled workers. Notably, the enrollment for WTRM of Fall 2022 was approximately 75 students, yet the enrollment of student body for water department of Fall 2023 was approximately 200 students. At end April 2023, Gavilan College WRM Department signed a Grant Agreement with CCCCCO that has the plan description of "Gavilan College's WRM Apprentice Program will address a severe shortage of qualified water/wastewater technicians and support economic recovery by creating 25 apprenticeships; enhancing the reliability of local/regional water and

wastewater systems thus supporting economic recovery; increasing equity in a non-traditional career path; and improving the lives of low income Latinx and women students/families. Gavilan's program will build on and leverage its existing and successful WRM degree and certificate programs." The Gavilan's WRM has been working to build this Apprenticeship Program.

**On the PIPR website, locate and review your previous program plan and subsequent annual updates. After studying, please list**

**Response and follow-up to previous program reviews**

**Goal 1: Complete the SLO assessments for all courses that have been taught and have not been**

1. **assessed, including mapping them to the PLOs and ILOs.**

**Goal 2: Complete the assessment of all PLOs for the WTRM degrees and certificates, map them,**

2. **and align them to the ILOs.**

3. **Goal 3: Increase the number of students who participate in WTRM internships.**

**Have the services or courses of your program changed over the past three years? Please explain (300 words or less).**

In regard to the above goals for 2019 /2020 the previous PIPR report for the Water Resources Department; the following have been accomplished:

For goals 1 and 2 a revision of the Water Resources Management Degrees and Certification has begun and that streamlines the certification program and shall ultimately allow for effective pathway alignment. Once the Certifications have been proved then goals 1 and 2 will be able to begin to for the SLOs, PLOs and ILOs.

For Goals 3 and 4 the students had participated in a panel discussion by water industry and professionals in a yearly event until 2020. Due to Covid, the students have experience mock job interviews and resume writing that has been embedded into several courses and continues to date. Additionally, as part of the Water Grant - Apprenticeship program a selection of students will be participating in a panel job interview, where their resume will be provided, and apprenticeship program that will lead to a job offer.

The Water Management program has started the process to decrease the number of certificates from 5 to 2 to allow for students to streamline their pathways through the process, yet still allowing them to be able to complete the state water board requirement levels up to T3, D3 and OIT per educational points. In 2023, a full-time non-tenured faculty member was hired. This faculty member teaches a majority of the courses and leads the water apprenticeship grant agreement that was signed in April 2023.

## **Student and Program Outcomes**

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### **College Goal for Student Achievement**

The following questions refer to data regarding student achievement.

Find your discipline's course success information. Consider your department success rate trends over the last three years. Compare your overall success to the college average. Are these rates what you expected after comparing with the college average? Are there any large gaps? Is there anything surprising about the data? What trends are suggested by the data?

Comparing the WTRM course success to Gavilan College's success percentages for the past three years, Gavilan's WTRM courses have been higher than Gavilan's College overall. There was only a drop in success rates in 2019-2020 when Covid occurred, yet WTRM course success still remained 0.7% higher in success percentage compared to the college average.

**Now find your division persistence information. Consider your retention rate trends over the last three years. Compare your overall retention to the college average. Are these rates what you expected after comparing with the college average? Are there any large gaps? Is there anything surprising about the data? What trends are suggested by the data.** Path: Tableau - Program Review/ Equity - D2. One Year Persistence Rate

Per Tableau, retention percentage for the program dropped due to Covid for the years of 2019 through 2021. Yet, in 2021-2022, the WTRM retention rates have matched the College's percentages for retention. Currently, the first half of 2023 is slightly below the College's percentage by 2%. Because Gavilan College has offered free tuition, the enrollment numbers have increased, but the retention has decreased. An additional decrease in retention may be attributed to the way the courses were scheduled. For example, they were scheduled as hybrid courses, and students thought that they were fully online. Once they found out that they were 1/2 in person and 1/2 online, they dropped the course, so the retention decreased. Many of the students in the program are used to the online modality due to industry standards. During the Covid pandemic, all of our courses were offered online, and the retention and persistence rates were higher.

### Success

**The following questions refer to data regarding student achievement. What are your set goals for course success? Do your individual course and department rates meet this goal? Helpful Question: If your rates for success are lower than your goals, what are your plans to improve them (200 words or less)?** Path: Tableau - Program Review/ Equity - D3. Course Rates by Unit

Reviewing the retention percentages, it appears that WTRM is within 2% difference compared to college retention. By streamlining the certifications available to our students and reducing the number of units to complete Gavilan's certifications, this will increase the retention, so the students' pathway is more efficient and timely.

**How many students did your area serve (if you don't have an exact count, please provide an estimate)? How did they perform in comparison to those that did not use your services, if applicable? Given this information, how has your service or area supported student success and retention over the past three years (200 words or less)?** See Success and Retention dashboard in Tableau's Program Review section. In the following three years, our total number of WTRM students served were 263 in 2020-2021, 241 in 2021-22 and 191 in 2022-23 from Tableau.

Data gathered from the California Community Colleges Chancellor's office (CCCCO) stated that in Spring 2022 online course enrollment was higher than traditional face to face courses and almost matching the College retention and success count within 1-3% below. Whereas, the traditional education method enrollment was much lower slightly higher within 3%.

**In your area, what goals need to be set and what initiatives need to be developed to support success and retention? (200 words or less).**

## Equity

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### Equity

Gavilan College has identified the following populations as experiencing disproportionate outcomes: Males, African American, Native American, Students with Disabilities and Foster Youth.

For EOPS/ CalWORKs, MESA, TRiO, Puente, and VRC: LOCATE Success and Retention dashboard in Tableau's Program Review section. Examine your equity results over the last three years. If there are differences in success rates and/ or retention across groups, comment on any differences in success rates across groups. Helpful Questions: What current factors or potential causes can be connected to these areas of disproportional impact? How might your program or department address student equity gaps (200 words or less)? For all other areas, how can your area help increase disproportionate student success? Contact your support team for any needed assistance in interpreting these data (200 words or less). Please find Equity information in Tableau's Success and Retention dashboard. Contact your support team for any needed assistance in using Tableau.

Currently, I do not have full access to tableau to do comparison with equity numbers. Although, Gavilan College WRM Department signed a Grant Agreement with CCCCO that has the plan description of "Gavilan College's WRM Apprentice Program will address a severe shortage of qualified water/wastewater technicians and support economic recovery by creating 25 apprenticeships; enhancing the reliability of local/regional water and wastewater systems thus supporting economic recovery; increasing equity in a non-traditional career path; and improving the lives of low income Latinx and women students/families. Gavilan's program will build on and leverage its existing and successful WRM degree and certificate programs." The Gavilan's WRM has been working to build this Apprenticeship Program.

Our Equal Employment Opportunity (EEO) Plan States "Ensuring equal employment opportunity involves creating an environment that fosters cooperation, acceptance, democracy, free expression of ideas and is welcoming to persons of all gender expressions, persons with different abilities, and individuals from all ethnic and other groups protected from discrimination."What is your area doing to support district efforts in creating an inclusive college environment? With what departments are you partnering? Did you identify barriers and institute change? How is you creating/ ensuring diversity in your department or in the classroom?Some examples might be sponsoring cultural events and diverse speakers on issues dealing with diversity, exploring how to infuse diversity into the classroom and curriculum, integrating diversity into the evaluation of employees, promoting learning opportunities and personal growth in the area of diversity, or evaluating how the physical environment can be responsive to diverse employee and student populations.

In the Summer of 2023, Gavilan College did a full time cluster hire. For the Water Department the candidates in order to be considered for a full time hire must satisfy criteria; such as the following: Have you demonstrated a commitment to engaging in service with populations historically under presented and underserved in higher education, particularly the Hispanic/Latinx community? Do you have demonstrated knowledge of barriers for Latinx students? Do you have skills in developing cross-cultural and anti-racist communication collaboration and/or pedagogy?" The female full time hire for the Water Resources Department not only satisfied that criteria, yet has further growth by participated in the Diversity, Equity, Inclusion and Anti-Racism workshop held in Spring of 2023 and additional the full time hire participates in the Outreach for the Encontrando El Camino, which is an outreach for Latinx to learn about career opportunities Gavilan provides.

Find your Distance Education success information. If distance education is offered, consider any gaps in success rates between distance education and face-to-face courses. Do you notice any trends? Do these rates differ? Path: Tableau Program Review/ Equity D9. Course Success Rates Locate your department. Filter by Delivery Methods Helpful question: If disparity exists, how do you plan on closing the achievement gaps between distance education and face-to-face courses (300 words or less)? According to CCCCO, data mart website the following was found:

Summer of 2021 where two online courses were offered with an 81.8% success rate.

In the fall of 2021, Gavilan's success rate was 81.62%, and only online courses were offered for WTRM with a success rate of 84.1%.

In the Spring of 2022, there were three courses offered online and two courses were offered face-to-face, yet one of the face-to-face was canceled due to low enrollment. Gavilan's success rate was 84.88%, online success rate was 82%, and face-to-face was 92%.

In the Summer of 2022, two were online courses offered with an 89.47% success rate.

In the Spring 2023, three courses were offered online and one was offered as a hybrid. During that semester, all courses met the enrollment minimums. Gavilan's success rate was 75%, online success rate was 75.4%, and the non-distance method showed a success rate of 66.7%.

How do you plan on addressing issues of student and employee equity? In other words, how do you plan on creating opportunities for success of students who have historically been underserved? How do you plan to address EEO outcomes in your employee hires?

## Learning and Area Outcome

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Have you reviewed all of your Service Area Outcomes (SAOs) to ensure that they remain relevant for evaluating the performance of your area?

Are your SLOs, PLOs, SAOs, and ILOs mapped in CurriQunet?

No

Are your SLOs, PLOs or SAOs up-to-date in CurriQunet?

No

Have all of your SLOs, PLOs or SAOs been assessed in the last five years?

No

Have you reviewed all of your SLOs/SAOs to ensure that they remain relevant for evaluating the performance of your program?

Yes

If you answered no to any of the above questions, what is your plan to bring SLOs/PLOs/SAOs into compliance?

The current SLOs were updated in 2018 and 2020. We plan to map, update and/or revise the student learning outcomes once the certification has gone through curriculum to change the certificates from 5 to 2. In the meantime, we are currently reviewing the SLOs, and they shall be updated as needed with the next course review in curriculum. Once they are updated, they will be assessed and reported in the new CurriQunet modules.

## Outcome Assessments

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Review Outcomes data located in the Course and Program Reports for your area (path below).

After you have examined your results, reflect on the data you encountered.

**Student Learning Outcomes (SLO) or Service Area Outcomes (SAO)**

**Review the SLOs or SAOs data located in CurriQunet. What is your department's acceptable achievement score goal for each outcome?**

Need assistance and training on SLOs assessment. Currently, for the Water Department, CurriQunet does not show any of the 200 courses that being offered now.

**Institutional Learning Outcomes (ILO)**

**How do your SLOs/SAOs support the college ILOs or how do your PLOs support the college ILOs? Be specific.**

Need assistance and training on SLOs assessment. When viewing the Water Resources Management A.A. Degrees and certificates of achievements in CurriQunet, the program learning outcome are all aligned with the ILO. Still the 200 courses are not in CurriQunet.

**Are you meeting your SLO/SAO success goals? What patterns stand out in your results? If your SLO/SAO results are lower than your goals, what are your plans to improve them?**

Need assistance and training to evaluate the patterns in the SLOs that meet the goals.

## Curriculum and Course Offerings Analysis

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**Are there plans for new courses or educational awards (degrees/certificates) in this program? If so, please describe the new course(s) or award(s) you intend to propose (200 words or less).**

Revision of the current certification from 5 to 2 is in progress. Currently, the certificates are being reviewed by the verification committee that assists in alignment towards a clear pathway for the students.

**Provide your plans to either inactivate or teach each course not taught in the last three years (200 words or less).**

The tentative 2-year roll out has been updated during the fall semester and the two water department instructors met to review to verify which courses needed to be offered, so students can achieve the requirements and become certified by Fall/Spring 2023/2024.

**Consider and analyze your location, time, and delivery method trends. Are classes offered in the appropriate sequence/ available so students can earn their degree or certificate within two years? Are courses offered face-to-face as well as have distance education offerings? Are they offered on the main campus as well as the off-site areas? Different times of day? (300 words or less).**

Yes, they are offered in the evening for our night students and within a 2 to 3 year completion sequence. They are offered in a mixture of face to face, hybrid and online.

## Program and Resource Analysis

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Please list the number of Full and Part Time faculty, staff and/ or managers/ administrator positions in this program over the past three years. Focus on your individual program.

### Program and Resource Analysis

1. 2020

How many students did your area serve in this year (if you don't have an exact count, please provide an estimate)?

263

Full Time Faculty

0

Part Time Faculty

5

Full Time Staff

0

Part Time Staff

0

Full Time Mgr/Admin

0.00

Part Time Mgr/Admin

0.00

2. 2021

How many students did your area serve in this year (if you don't have an exact count, please provide an estimate)?

241

Full Time Faculty

0

Part Time Faculty

3

Full Time Staff

0

Part Time Staff

0

Full Time Mgr/Admin

0.00

Part Time Mgr/Admin

0.00

3. 2022



How many students did your area serve in this year (if you don't have an exact count, please provide an estimate)?

191

Full Time Faculty

0

Part Time Faculty

2

Full Time Staff

0

Part Time Staff

0

Full Time Mgr/Admin

0.00

Part Time Mgr/Admin

0.00

#### Faculty Percentages

#### Percentage Full to Part Time Faculty

Year:2020

FT = 0%

PT = 100.00%

Year:2021

FT = 0%

PT = 100.00%

Year:2022

FT = 0%

PT = 100.00%

How have and will those with reassigned time, grant commitments and activity, projected retirements and sabbaticals affect personnel and load within the past in the next three years? What future impacts do you foresee (200 words or less)?

Grant commitments and reassigned time have not affected personnel and load for the past 3 years. There have been three adjunct instructors who have chosen not to return. It means once a full-time faculty member is hired there still will not be enough support in terms of assistance in grant management with a large teaching load. One of the part-time instructors was hired as the full-time instructor to teach the courses and coordinate the grant during the Fall 2023 semester. There is still a need for another part-time instructor to be able to offer all the courses in the certificate program.

#### Additional Comments

#### Evaluation of Resource Allocations



List the resource allocations from all sources (e.g., annual college budget request appropriations, Guided Pathways funds, grant funds, etc.) received in the last three years. For annual college budget request appropriations, reference your previous three-year plan and annual updates. Please evaluate the effectiveness of the resources utilized for your program. How did these resources help student success and completion? For college budget request appropriations, list the result of the evaluation strategy outlined in your previous three-year plan and annual updates. For all other sources of funding, list the results of the evaluation strategy contained within the program or grant plan.

Did you receive additional funds?

Yes

#### Resource Allocation

1. 333,320

Funding Source

Grant

Academic Year

2022 - 2023

Purpose of Funding

Water Apprenticeship

Result

Building Apprenticeship program

## Program Productivity

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### Program Productivity Measurements

Determine the number of students you assist annually. Using the data provided by the business office, calculate your average cost effectiveness per student. **If you do not have student contact, please fill out Total allocated budget and Total spending.**

- 2022 - 2023

Total Number of student contacts

191

Total allocated budget

Total spending

Total cost per student (Student Contact/ Total Spending)

- 2021 - 2022

Total Number of student contacts

241

Total allocated budget

Total spending

Total cost per student (Student Contact/ Total Spending)

- 2020 - 2021

Total Number of student contacts

263

Total allocated budget

**Total spending****Total cost per student (Student Contact/ Total Spending)****Year and Student count**

Evaluate your program costs. Are your costs in alignment with your budget? If not, what improvements can be made? Please explain any trends in spending, inconsistencies and unexpected results.

## Integrated Planning and Initiatives

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What other areas is your program partnering with (i.e. guided pathways, grant collaboration, etc.) in new ventures to improve student success at Gavilan College? What is the focus of this collaboration? Helpful question: What are the department and your Integrated Planning/ Guided Pathways partners' plans for the next three years (200 words or less)?

We have integrated soft-skills and other supports for grant preparation into the course work; such as, the introduction water course that has students participate in mock interviews and resume writing. Additionally, this information is used to assist in gathering data for the Apprenticeship grant for agencies that shall be used for placement into the Water Apprenticeship program.

We work with the California State Water Board representatives to align course requirements, thus allowing students to be eligible to take the State Operators exams.

Additionally, meeting with faculty and agencies have / will continue to build connections for the Apprenticeship grant program and/or internship opportunities for the Water student bodies.

The Water Management Program lead instructor works with our specialized counselor to ensure that the sequence of our courses are offered in a timely manner. We continue to work with our Guided Pathways' advisor to make sure we are offering the courses needed for students to be complete the certificate within 2 to 3 years.

## Other Opportunities and Threats

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Review for opportunities or threats to your program, or an analysis of important subgroups of the college population you serve. Examples may include environmental scans from the Educational Master Plan, changes in matriculation or articulation, student population, community and/ or labor market changes, EMSI data and etc. Helpful Question: What are the departmental plans for the next three years (200 words or less)?

There is a decline in our student enrollment for the water management courses due to not offering a fully online course. The industry standard for training of operators is a fully online certification program.

**What are you discovering about instruction and/or services in a remote environment that you would want to maintain post-pandemic?**

In 2020-21, the enrollment of the Water Management program was at its highest at 263 when the courses were offered 100% online. Since that time, we have decreased the number of fully online courses offered, and our enrollment has steadily declined. In 2021-22, our enrollment was 241, and the modality offered was 88% Distance Education and 12% Face-to-Face. In 2022-23, our enrollment was 191, and the modality offered was 68% Distance Education, 25% Face-to-Face and 7% Hybrid. This decline may be attributed to

students in the program preferring the fully online modality, so we would like to maintain at least one fully online certification program that follows the POCR guidelines.

**What kinds of issues are exacerbated or emerging that are likely to remain, unless addressed?**

There is a lack of mathematically tutoring that provides the fundamental support for beginning students. Since the students complete the program in a short amount of time, there hasn't been success in hiring specialized tutoring for the program. In addition, students take their courses in the evening and the tutoring hours are during the day.

## Additional Questions

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Please consider providing answers to the following questions. While these are optional, they provide crucial information about your equity efforts, training, classified professional support, and recruitment.

**1. Does your division (or program) provide any training/mentoring for faculty and/ or classified professionals regarding professional development?**

The Water Management instructors have participated in seminars and conferences. For example, Bay Works has put on an annual seminar. To maintain an Operators license, it is required by the state to complete educational points. Both instructors participate in Gavilan's professional development training during the Convocation Days.

**2. If there is a need for more faculty and/ or classified professional support in your area, please provide data to justify request. Indicate how it would support the college mission and college goals for success and completion.**

We need assistance to further support our efforts with grants, student placements, community agency recruitment, and MOUs. There is a need for a co-faculty to help anchor the aspects of the grant.

**3. What, if anything, is your program doing to assist the District in attracting and retaining faculty and classified professionals who are sensitive to, and knowledgeable of, the needs of our continually changing constituencies, and reflect the make-up of our student body?**

A cluster hire brought in one full-time faculty person for the department, yet additional hiring efforts need to continue to diversify the faculty and community partners.

**4. Are there program accomplishments/ milestones that have not been mentioned that you would like to highlight?**

Our night students have reached out to Career Center on campus to complete their assignments such as: resume writing and mock interviews. The instructors encourage the night students to learn what is available regarding services and support for them during normal office hours.

**Please share any recommendations for improvements in the Program Integrated Plan and Review process, analysis, and questions. Your comments will be helpful to the PIPR Committee and will become part of the permanent review record.**

More time is essential in completing the Program Integrated Planning and Review (PIPR) report. The faculty workload hinders the ability to complete the report in a timely manner. Again, more time should be given as accuracy is essential for college. Training on how to access the budget and data for the program is essential. Due to the fact that this PIPR report was submitted outside the normal cycle, I didn't feel like I had enough time or support to meet the learning curve.

## Goals

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### Three-Year Program Plan Goals

- Facilitate the logistics of the Water Resource Management Apprenticeship Program (grant) with
1. **budgeting and funding.**

**Connection of Goal to Mission Statement, Strategic Plan and SAO Results**

Improve achievement and efficiency and equity. Ensure requirement of the students and support for their pathway.

**Proposed Activity to Achieve Goal\*\***

Hire Grant assistant who has knowledge and understanding of the logistics of the Apprenticeship program funding.

**Responsible Party**

Dean

**Fund amount requested. If a collaboration, what % required from each partner?**

\$25,000

**Total Three Year Resource Allocation Request**

75000

**Timeline to Completion Month / Year**

12 / 2024

**How Will You Evaluate Whether You Achieved Your Goal**

Budgeting and payment invoices will be completed and submitted to the state in a timely manner.

## Executive Summary

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Please provide a brief executive summary regarding program trends and highlights that surfaced in the writing of this report. Summarize, using narrative, your program goals for your next three years. Your audience will be your Peer Review Team, the PIPR Committee, President's Cabinet, Dean's Council, ASGC, Academic Senate, Budget Committee and Board of Trustees (300 words or less).

Hiring a grant assistant who has knowledge and understanding of the logistics of Apprenticeship program funding is essential. Gavilan College actively engages, empowers and enriches students of all backgrounds and abilities to build their full academic, social, and economic potential. Gavilan's Water Resources Management (WRM) program addresses severe shortages of water/wastewater technicians, and improves equity for women and students of color in the industry. There is a growing shortage of trained water management technicians throughout the State of California. Water/wastewater systems, both municipal and industrial, are critical to the health and economic vitality of California (ASCE, 2021). Gavilan's Water Resource Management program offers the only comprehensive academic water resources management program in the Bay Area, delivered in a variety of modalities such as: online, hybrid and/or classroom/lab instructions. Pairing on-the-job training with classroom instruction, through internships and apprenticeships, will help meet the industry's need for skilled workers.

## Attach Files

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### Attached File

