

**DATA ENTRY MANUAL**

**TRANSPORT ONLY TRANSFER STATION**

System: Fecal Sludge Management

Element: Transport

Component: Transport Only Transfer Station

**TABLE OF CONTENTS**

[**INTRODUCTION**](#_heading=h.tuilb68dnlk1)2

**[TAB 1: CONTEXT](#_heading=h.m3lpscvvr8ts)** 4

[SERVICE INFORMATION](#_heading=h.8dtzsz3gx5r0) 4

[**TAB 2: DIRECT CAPEX**](#_heading=h.q9cvkreprent)7

[OVERVIEW](#_heading=h.fduamv1x8nz) 7

[SECTION 1: PHYSICAL ASSETS](#_heading=h.23m543cf1seb) 7

[SECTION 2: MAJOR AND EXTRAORDINARY REPAIRS](#_heading=h.2s8eyo1) 9

[SECTION 3: TAXES AND FINANCING FOR PHYSICAL ASSETS](#_heading=h.q9er3exollny) 10

[**TAB 3: INDIRECT CAPEX**](#_heading=h.iu6i14xegk79)12

[OVERVIEW](#_heading=h.t7s5s14ghph3) 12

[SECTION 1: PHYSICAL ASSETS](#_heading=h.l1865qqotql2) 13

[SECTION 2: MAJOR AND EXTRAORDINARY REPAIRS](#_heading=h.za3ms8kyutlz) 15

[SECTION 3: TAXES AND FINANCING FOR PHYSICAL ASSETS](#_heading=h.lnxbz9) 16

[SECTION 4: PROFESSIONAL DEVELOPMENT AND TRAINING](#_heading=h.a2pzqsvov7fq) 16

[SECTION 5: OTHER INDIRECT CAPEX](#_heading=h.kbkkf3quxpnu) 17

[**TAB 4: DIRECT OPEX**](#_heading=h.fbqyf8qhbdht)18

[OVERVIEW](#_heading=h.vr2lwggn65ra) 18

[SECTION 1: SALARIES](#_heading=h.ediwyb9rsf5p) 18

[SECTION 2: VARIABLE STAFF PAYMENTS](#_heading=h.7frw6nn44tjv) 20

[SECTION 3: FIXED NON-SALARY STAFF EXPENSES](#_heading=h.r4pl3617fgmu) 20

[SECTION 4: EQUIPMENT, LAND AND BUILDINGS](#_heading=h.1dpgwb1vqncr) 21

[SECTION 5: CONSUMABLES](#_heading=h.lqxqdp8lil8f) 22

[SECTION 6: SERVICES](#_heading=h.2uj63455nvi9) 23

[SECTION 7: ADMINISTRATIVE CHARGES AND PERMITS](#_heading=h.wpwxin9uwp8g) 24

[**TAB 5: INDIRECT OPEX**](#_heading=h.43tusitkrhbe)25

[OVERVIEW](#_heading=h.ovua7jtmiumr) 25

[SECTION 1: SALARIES](#_heading=h.3j2qqm3) 25

[SECTION 2: OTHER EXPENSES FOR INDIRECT STAFF](#_heading=h.1y810tw) 26

[SECTION 3: PROFESSIONAL DEVELOPMENT AND TRAINING](#_heading=h.cbugrmbxjn6j) 26

[SECTION 4: EQUIPMENT, LAND AND BUILDINGS](#_heading=h.8951m81mepdq) 27

[SECTION 5: CONSUMABLES](#_heading=h.680u86kkwqac) 28

[SECTION 6: SERVICES](#_heading=h.yfpif1balu8a) 28

[SECTION 7: ADMINISTRATIVE FEES, TAXES AND FINANCING](#_heading=h.1ci93xb) 29

# 

# INTRODUCTION

This manual is designed to help you enter all of the costs associated with a **Transport Only Transfer Station** component. This component includes a transfer station where waste that has been removed from pit latrines and septic tanks is temporarily stored before transportation to a treatment facility or official disposal site. Costs incurred for building, operating and maintaining the transfer station and for transporting the waste from the transportation station to final treatment or disposal are included in this component. Costs incurred for the initial emptying of waste from pit latrines and septic tanks and transporting that waste to the transfer station are NOT included in this component; if you wish to include those costs, you should fill out a workbook for an **Emptying and Transport Transfer Station** component instead.

Examples of a **Transport Only Transfer Station** typically include some or all of the following:

* Your organization has constructed and operates a transfer station.
* Manual emptiers discharge waste emptied from pit latrines and septic tanks at your transfer station. Your organization does not provide the tools, equipment or labour required to empty the pit latrines and septic tanks.
* Waste is transported from the transfer station to a treatment facility by an exhauster truck. Your organization either owns or rents the exhauster truck and operates it directly, or you hire the exhauster truck as an external service.

***INSIGHT 0.1***

|  |
| --- |
| **Elements and components**  An *element* is a functional step of the sanitation value chain. Elements defined by CACTUS are: containment, emptying, transport, combined emptying and transport, and treatment.  A *component* is a cluster of technologies defined by CACTUS, which provide the functionality of a single *element*, have similar characteristics and are likely to have similar cost profiles.  This manual provides instructions for providing data for a **Transport Only Transfer Station** *component,* which falls under the **Transport** *element.* |

First, download and open a clean workbook for a **Transport Only Transfer Station** component. Then follow the instructions below to fill in the required data on each of the five workbook tabs: context, direct CAPEX, indirect CAPEX, direct OPEX and indirect OPEX. Any cost item or row in the workbook that does not apply to your operation can be left blank.

Frequently asked questions

|  |
| --- |
| **We provide manual emptiers with personal protective equipment (PPE), and we rent out equipment such as buckets, shovels and carts to facilitate emptying of pit latrines and septic tanks. However, the labour cost for the emptiers is paid directly to the emptiers by households. Do we qualify as a Transport Only Transfer Station or an Emptying and Transport Transfer Station?**  *This situation could be reported as either component. If you decide to fill out the* ***Transport Only Transfer Station*** *component, then you should exclude the costs of PPE and tools that you provide emptiers from the costs that you report. If you decide to fill out the* ***Emptying and Transport Transfer Station*** *component, then you should include the labour costs associated with emptying, even though you do not incur these costs directly. You will likely need to interview the emptiers you work with to determine appropriate labour costs to report, which should be based on the income that they receive from providing emptying services.* |

# 

# TAB 1: CONTEXT

## GENERAL INFORMATION

Definition

The context tab provides information that applies to all costs in the data point for which you are reporting. Enter the requested information in the light yellow boxes.

Parameters

* **Name of organization / business / utility / operation:** If you are entering data for a formal organization or business, enter the name here.
* **Description of organization / business / utility / operation:** Provide a brief description of your organization or operation here, such as 'Local business that operates a transfer centre and transports fecal sludge to treatment facility'
* **Description of Transport Only Transfer Station:** Provide a description of the specific component for which you are providing data. For example, 'Waste in barrels is brought by emptiers who pay a tipping fee to the transfer station. The waste is then transported to a treatment facility’.
  + If your organization provides only one type of service, the description of the organization above might be the same or similar as the description of the component.
  + If your organization covers multiple elements within the sanitation value chain or multiple types of emptying and transport services, this box would be used to describe the specific component that you are reporting in this workbook.
* **Year:**Enter the year that corresponds to most of the costs that you are entering. For example, if the current year is 2020 and you are entering costs based on last year’s financial records, you should enter 2019.
* **Country:** Select the country where the operations take place from the dropdown box
* **City**: Enter the name of the city where your organization or business is located

## SERVICE INFORMATION

Definition

The service information helps us determine the number of people and households who depend on the emptying and transport services that are reported in this workbook, which is critical for calculating CACTUS’s key metrics: the total annual cost per capita (TACC) and total annual cost per household (TACH).

Data to provide

**Primary service parameters**

There are three service parameters to enter in this section: *number of people served*, *number of households served*, and *number of people per household*. The number of people and number of households served should indicate the number who depend on your transfer station for their fecal sludge management needs for their primary toilet. If known, provide those parameters here. If you only know two of the three, the remaining parameter can be calculated from those. For each parameter, enter:

* **Value:** Enter the appropriate values for at least two of the three service parameters
* **How value was determined:** Include any information about how you came to this value. If you know the value within a given range, you can provide the range here and then use the average of the range in the value column.

**Additional information**

If you cannot provide the parameters above, these additional questions can help us estimate your service population. Even if you did provide the parameters above, please answer as many of these questions as possible to help us better understand the context of your service and possibly to help estimate service populations for other transportation services in the future.

* **Describe the geographic area that you serve:** This might be the name of the district, neighborhood, ward, sub-area, etc. that you serve. If you serve multiple areas or portions of an area, describe the different areas in detail.
* **Approximately how large is the geographic area that you serve?** Provide the square km of the area that you serve based on how far emptiers travel from the containments that they empty to your transfer station.
  + If you know the average distance traveled by emptiers, you can calculate the geographic area served as the area of a circle with a radius equal to the average distance traveled.
* **What volume of fecal sludge do you receive at your transfer station?**
  + You may report this in any unit that you track, as long as it can be converted to a mass or volume unit. For example, if you track the number of barrels of waste that manual emptiers bring, be sure to include the volumetric capacity of the barrel.
  + Also include the relevant time component of the metric that you track (day, week, month, etc).
  + Example answers for this question are: “We receive an average of fifty 200-litre barrels in one day’, or ‘50,000 litres of waste per week’.
* **How many different pit latrine/septic tank emptiers consistently use this transfer station?** This question is meant to understand the number of emptiers in the community who routinely use your transfer station to discharge the waste that they collect. This is not necessarily the same as the average number of emptiers who visit the transfer station per day.
* **How many toilets do you typically receive waste from each day?** You might know this based on the average number of emptiers who bring waste to the site each day and the average number of jobs they complete in one day.
* **Describe the toilets from which you typically receive waste:** If possible, describe the containment type of the toilets or mix of containment types and mix of private residential, community, and commercial toilets that are served. Private residential toilets are defined as those that serve as the primary toilet for a discrete, specific group of households. Community residential toilets are defined as those that serve as the primary toilet for any nearby households, not confined to a discrete group, such as a community toilet block. Public, commercial, or institutional toilets are defined as those that typically do not serve as a household’s primary toilet and may be located at bus stations, markets, schools, hospitals, etc.
* **Approximately what percentage of the population in the area that you serve uses toilets that must be emptied as their primary sanitation facility?**
* **Approximately what percentage of the fecal sludge that is emptied from the area that you serve is discharged at your transfer station?**
* **On average, how frequently are residential pit latrines and septic tanks emptied in the area that you serve?** Indicate frequency as number of months or number of years. Include the appropriate time unit in your answer.
* **How many households typically share one residential toilet?** If toilets are typically owned and used by a single family, enter 1. If toilets are typically shared by multiple families, enter an average to the best of your ability, even if the actual number is highly variable. You may provide any additional notes or context that would be helpful in framing your response.
* **What is the average household size that you serve?** For the private residential toilets that you serve, what is the average number of people in each household?

# 

# TAB 2: DIRECT CAPEX

## OVERVIEW

Definition

**Direct CAPEX** includes capital investments (either purchases or long-term leases longer than one year) into physical assets that are beneficial beyond one year and that directly contribute to the transportation of waste. These investments are broken into three categories: (1) physical assets, (2) major and extraordinary repairs and (3) taxes and financing fees.

Common parameters

The following parameters to describe cost items are common throughout this tab. Any differences in these parameters seen in individual sections will be described separately in the corresponding section.

* **Cost:** The cost incurred for the described item
* **Currency:** Select the appropriate currency from the drop down box which should correspond to the currency specific to that particular cost. Different costs could have different currencies depending on how your organization reports these costs.
* **Confidence in cost estimate:** Indicate how confident you are in the reported cost. Answer choices include high confidence (approximately +/-5% from reported cost), fair confidence (approximately +/-15%), and low confidence (approximately +/-50% or more).
* **Indicate if cost is incurred but not reported:** Use an X from the drop-down menu to indicate if a cost that is incurred is not reported because it is not known or otherwise missing. If the cost is not reported because it is actually not incurred for your specific component, then you do not need to indicate that it is missing. This column helps us track missing costs for later data analysis.
* **Notes:** A more detailed description of what the cost item is or how the cost was determined. Any assumptions or calculations that were made to arrive at the cost estimate should be included here.

## SECTION 1: PHYSICAL ASSETS

Definition

This section includes the costs for purchasing physical assets required to empty and transport fecal sludge and to operate a transfer station.

Parameters

Additions and clarifications of the parameters specific to this section include:

* **Cost:** Provide the amount paid for the asset. You may enter the cost either inclusive or exclusive of taxes such as VAT. If the cost is inclusive of VAT or other taxes, indicate that in the notes column for each cost item. If the cost is exclusive of VAT or other taxes, provide the cost of those taxes separately in Section 3. Make sure to only include the taxes in one section to avoid double counting them.
* **Lifetime (years):** Indicate the estimated lifetime of the cost item in years. Estimates can be based on personal observations of asset lifetimes, estimates provided by vendors or values used for internal financial purposes. The workbook only allows input of a single value in years. If you are working with a range, provide the average value as the lifetime, and indicate the expected range in the notes column. If possible, describe how the estimate was determined in the notes column.
* **Year purchased:** List the year that the item was purchased. Use an average if you are reporting on the costs of multiple items purchased over a span of multiple years.

Cost items

* **Land for transfer station (if purchased or long-term lease):** This includes costs incurred in the one time purchase or long term lease of land used for transfer station purposes
  + A long-term lease means that you pay for the lease at a frequency of less than once per year, for example if you pay upfront for a 25-year lease on the land.
  + Leave this line blank if the land is rented on a term less than one year.
  + If you are entering the cost of a long-term lease, report the frequency of payment as the lifetime. If you are reporting the cost for purchased land, use a default lifetime value of 100 years.
* **Construction, purchase, or long-term lease of transfer station:** Includes the total costs associated with constructing, purchasing, or long-term leasing a transfer station. If the transfer station was constructed, this includes all costs associated with excavation, concrete works, labour for construction, gates and fencing, showers and any cleaning areas.
  + If you are entering the cost of a long-term lease, report the frequency of payment as the lifetime. If you are reporting the cost of construction or purchase of the site, you may use a default lifetime value of 40 years or estimate the appropriate lifetime relevant to your context.
* **Transfer station storage tank:** Includes all costs associated with the storage tank, including the tank itself, a cover, trash screen and any inlet and outlet pipes. Costs associated with both materials and installation should be included here
  + If the storage tank costs are only known as part of the total cost for constructing or purchasing the full transfer station, you may leave this row blank and include a note for the row above that the cost includes the storage tank.
* **Vacuum trucks:** Includes the purchase of vacuum trucks, which transport waste from the transfer station to treatment site
  + Common lifetime values for vacuum trucks are 10-15 years.
  + Only the purchase of a vacuum truck should be reported here. If a truck is rented or an external exhaustion service is used, those costs should be reported in the direct OPEX tab.
* **Other or combined physical assets:** Provide the combined cost for any physical assets that are not explicitly described above, or you may use this row to report the combined cost for two or more of the items above if your financial records group those costs together. Be sure to include the details of the included items in the notes cell.
  + Use an average lifetime value if multiple items are combined, ideally weighted by the cost of each item.

Frequently asked questions

|  |
| --- |
| **A majority of the costs or all of these costs are combined in our financial records. How should I enter these cost items?**  *Enter the combined cost of all of these items in the ‘other’ row. If you have an extra item whose costs are separate and doesn’t fall under any of the cost items highlighted in the other rows, you can also combine that cost with the other combined costs and report the total cost in the ‘other’ row. Be sure to describe all combined costs in the notes cell.* |

## SECTION 2: MAJOR AND EXTRAORDINARY REPAIRS

Definition

Major and extraordinary repairs include any extensive repairs made to an asset that prolong its useful life beyond one year and have a materially significant value. Please note that if your organization reports a repair as OPEX, then you can report it as maintenance on the Direct OPEX tab rather than in this section, even if it otherwise meets the definition of a major and extraordinary repair.

Parameters

The parameters in this section are the same as those in the physical assets section with one clarification:

* **Lifetime:** Here, lifetime indicates how frequently a repair is expected to be required in years.
* **Year cost was incurred:** Indicate the year when the reported cost was incurred.

Cost items

Major and extraordinary repairs should be reported according to the physical asset which requires the repair. Possible examples for each are described below:

* **Transfer station site:** Possible examples include replacing a fence or gate, major repairs needed to improve drainage at the site, and replacing a storage shed
* **Transfer station storage tank:** Possible examples include repairs of cracks in the tank, replacement of the screen or filter for solid waste (trash) or a new cover for the tank
* **Vacuum trucks:** Examples include replacement of the brakes or transmission will be included here.
* **Other or combined physical assets:** Provide the combined cost for any major and extraordinary repairs that are not explicitly listed above, or you may use this row to report the combined cost for two or more of the items above if your financial records group those costs together. Include the details of the combined items in the notes cell, and use a weighted average for the lifetime value.

Frequently asked questions

|  |
| --- |
| **1.How do I determine whether a cost should be classified as a major and extraordinary repair on this tab or as maintenance on the direct OPEX tab?**  *In general, if the cost of the repair is significant in relation to the overall cost of the asset, the repair extends the useful life of the asset by more than one year, and the repair occurs at a frequency of less than once per year, then it would be considered CAPEX and reported in this section as a major and extraordinary repair. However, if your organization records the cost as OPEX, then you can report it as maintenance on the direct OPEX tab, regardless of whether it technically meets the definition for a major and extraordinary repair.*  **2. What if one of the physical assets requires two types of major and extraordinary repairs?**  *In this case, you can report one of the repairs in the appropriate row for the physical asset and the other in the row for 'other physical assets'. In the unlikely case that you have two types of major and extraordinary repairs for one asset AND a major and extraordinary repair for an 'other' asset, you can report the sum of the costs for the two repairs for the single asset in the appropriate row and use an average lifetime (ideally a weighted average based on the costs).* |

## SECTION 3: TAXES AND FINANCING FOR PHYSICAL ASSETS

Definition

Taxes and financing for physical assets include any interest paid on a loan, commissions or fees paid to a lender or bank for the financing and taxes, which might include sales tax, value added tax (VAT) and import tax.

Parameters

All parameters are described previously in the overview section.

Cost items

Where possible, taxes and financing costs should be reported for the individual physical asset for which they were incurred (i.e., transfer station equipment, transport vehicles, etc separately). However, if you only know combined financing costs and taxes for all physical assets, you may report those in the rows for 'other or combined physical assets'.

For each asset, **financing costs** and **taxes** should be reported in separate rows:

* **Financing costs:** Includes the total interest plus any commissions and fees paid to a lender or bank
* **Taxes:** Examples include sales, VAT or import taxes paid for a physical asset

Frequently asked questions

|  |
| --- |
| **1.****The physical asset cost that I reported in Section 1 is inclusive of VAT. Do I need to report that cost separately in this section as well?**  *No, if the cost reported for a physical asset in Section 1 already includes VAT, you should leave the corresponding row for taxes here blank.*  **2. I received a waiver for VAT for the purchase of my equipment. How should I indicate that in my reporting?**  *This is a great example for indicating that a cost (should be) incurred but is not reported. If you received a waiver for VAT but reasonably expect that similar operators in the future would have to pay taxes on the equipment, then you should mark the cell for ‘Indicate if cost is incurred but not reported’ with an X in the taxes row for the appropriate physical asset.* |

# 

# TAB 3: INDIRECT CAPEX

## OVERVIEW

Definition

**Indirect CAPEX** includes capital investments (either purchases or long-term leases longer than one year) into physical assets that are beneficial beyond one year and that **indirectly** contribute to operating the transfer station. (Stumped? See **INSIGHT 3.1**)

***INSIGHT 3.1***

|  |
| --- |
| **Guidance for determining whether a cost is direct or indirect**  Some cost descriptions are listed on both the direct and indirect cost tabs. To determine where a specific cost should be reported, consider the following questions:   * Is the item/service/staff member used only for this service? * Is it essential to deliver the service? If we eliminate it, would we be unable to operate the service?   If the answers to the questions above are yes, then it is likely a direct cost and should be reported on this tab.  Alternatively, consider:   * Does the item/service/staff member provide core business services that indirectly support the sanitation service? * Is the item/service/staff member shared across multiple services or different business activities?   If the answers to those questions are yes, then the cost is more likely an indirect cost. |

Common parameters

The following parameters to describe cost items are common throughout this tab. Any differences in these parameters seen in individual sections will be described separately in the corresponding section.

* **Cost:** Total cost for the described item that is incurred by the operation or business
* **Fraction applied to shared costs:** The fraction of the reported total cost that should be applied to this component, which should be generated using the methodology described in the Appendix. The fraction should be entered as a decimal equal to or between 0 and 1. (Stumped? See **INSIGHT 3.2**)
* **Currency:** Select the appropriate currency from the drop down box which should correspond to the currency specific to that particular cost. Different costs could have different currencies depending on how your organization reports these costs.
* **Confidence in cost estimate:** Indicate how confident you are in the reported cost. Answer choices include high confidence (approximately +/-5% from reported cost), fair confidence (approximately +/-15%), and low confidence (approximately +/-50% or more).
* **Indicate if cost is incurred but not reported:** Use an X from the drop-down menu to indicate if a cost that is incurred is not reported because it is not known or otherwise missing. If the cost is not reported because it is actually not incurred for your specific component, then you do not need to indicate that it is missing. This column helps us track missing costs for later data analysis.
* **Notes:** A more detailed description of what the cost item is or how the cost was determined. Any assumptions or calculations that were made to arrive at the cost estimate should be included here.

***INSIGHT 3.2***

|  |
| --- |
| **Cost allocation between shared costs**  Indirect costs are often shared between multiple products or services that are offered by a business. For example, if your organization operates a transfer station and a fecal sludge treatment plant, then indirect costs such as your office rent and finance team salaries are likely shared between those two services. For each cost item provided in this tab, report the total cost that is incurred by your organization and then determine the fraction of the total cost that should be applied to this component using the methodology described in the Appendix. |

## 

Frequently asked questions

|  |
| --- |
| **My organization only provides the transfer station services reported in this workbook. We do not provide any other products or services. What do I enter for ‘fraction applied to shared costs’?**  *If you do not need to divide your costs between any different operations, you can set the value as ‘1’ for all costs provided on this tab.* |

## SECTION 1: PHYSICAL ASSETS

Definition

This section includes the purchase cost for physical assets that indirectly support the transfer station service.

Parameters

Additions and clarifications of the parameters specific to this section include:

* **Cost:** Total cost for the described item. You may enter the cost either inclusive or exclusive of taxes such as VAT. If the cost is inclusive of VAT or other taxes, indicate that in the notes column for each cost item. If the cost is exclusive of VAT or other taxes, provide the cost of those taxes separately in Section 3. Make sure to only include the taxes in one section to avoid double counting them.
* **Lifetime (years):** Indicate the estimated lifetime of the physical asset in years. Estimates can be based on personal observations of asset lifetimes, estimates provided by vendors or values used for internal financial purposes. The workbook only allows input of a single value in years. If you are working with a range, provide the average value as the lifetime, and indicate the expected range in the notes column.
* **Year purchased:** List the year that the item was purchased. Use an average if you are reporting on the costs of multiple assets purchased over a span of multiple years, for example if you are reporting the cost for 5 vehicles that were purchased between 2018 and 2021.

Cost items

* **Land for office:** Includes the costs associated with purchasing or long-term leasing the land on which your office is built.
  + A long-term lease means that you pay for the lease at a frequency of less than once per year, for example if you pay upfront for a 25-year lease on the land.
  + If you are entering the cost of a long-term lease, report the frequency of payment as the lifetime. If you are reporting the cost for purchased land, use a default lifetime value of 100 years.
  + This cost typically only applies if you have built your own office. If you purchased or rent an office, it will be reported as 'purchase, construction or long-term lease of an office building' below (if a long-term lease with payment frequency less than once per year) or in the indirect OPEX tab.
* **Purchase, construction or long-term lease of an office building:** Includes all costs associated with purchasing, constructing or long-term leasing the office building.
  + For construction, the cost should include all labour and materials.
  + A long-term lease means that you pay for the lease at a frequency of less than once per year. If you rent your office and pay rent monthly or annually, the cost should be reported on the indirect OPEX tab.
  + If you are entering the cost of a long-term lease, report the frequency of payment as the lifetime. If you are reporting the cost for a purchased or constructed office building, use a default lifetime value of 40 years.
* **Office equipment:** Includes the costs associated with purchasing all equipment to be used in the office that are replaced at a frequency of less than once per year. This includes furniture, computers and all other electronic equipment used in the office.
  + The lifetime and year purchased should be averages of the multiple items included in this row. Ideally the average would be weighted based on the relative cost of each included item.
  + Use the notes column to describe specifically which items are included.
* **General use vehicles:** Includes the combined cost for purchase of any vehicles used for general, sales and administrative purposes.
  + Note that these do not include vehicles used for transportation of waste. If a vehicle is sometimes used for both, list it in the direct CAPEX tab.
* **Other or combined physical assets:** Provide the combined cost for any physical assets that are not explicitly listed above, or you may use this row to report the combined cost for two or more of the items above if your financial records group those costs together. Use the notes column to provide more details about the items accounted for in the cost. For the lifetime of combined costs, use the average lifetime of the items, weighted by the individual item costs.

## SECTION 2: MAJOR AND EXTRAORDINARY REPAIRS

Definition

Major and extraordinary repairs include any extensive repairs made to an asset that prolong its useful life beyond one year and have a materially significant value.

Parameters

The parameters in this section are the same as those in the physical assets section with one clarification:

* **Lifetime:** Here, lifetime indicates how frequently a repair is expected to be required in years. For example, if your vehicles require a significant repair such as replacing the brakes every three years, the lifetime would be three.
* **Year cost was incurred:** Indicate the year when the reported cost was incurred.

Cost items

Major and extraordinary repairs should be reported according to the physical asset which requires the repair.

* **Land for office:** Possible examples include excavation to improve stormwater drainage on the property or an overhaul of the property landscaping
* **Office building:** Possible examples include renovation of the office building or construction of a new staff kitchen
* **Office equipment:** A possible example is upgrading the CPUs of office computers
* **General use vehicles:** Possible examples include replacing the vehicle brakes, transmission, or engine
* **Other or combined physical assets:** Use this row for any major and extraordinary repairs required for any other physical assets that you reported in the previous section or to report the combined cost of major and extraordinary repairs for multiple assets. Use the notes column to provide more details about the repair that is accounted for in the cost. For the lifetime of combined items, use an average lifetime, ideally weighted by the cost of each item.

## SECTION 3: TAXES AND FINANCING FOR PHYSICAL ASSETS

Definition

Taxes and financing for physical assets include any interest paid on a loan, commissions or fees paid to a lender or bank for the financing and taxes, which might include sales tax, value added tax (VAT) and import tax. Only taxes that are incurred from the purchase or initial lease transaction should be reported here. Annual taxes such as property taxes should be reported on the indirect OPEX tab.

Parameters

All parameters are described previously in the overview section.

Cost items

Where possible, taxes and financing costs should be reported for the individual physical asset for which they were incurred. However, if you only know combined financing costs and taxes for all indirect physical assets, you may report those in the rows for 'other or combined physical assets'. You may also use the row for 'other or combined physical assets' if you reported the cost of a physical asset in the 'other' row in the previous sections of this tab.

For each asset, **financing costs** and **taxes** should be reported in separate rows:

* **Financing costs:** Includes the total interest plus any commissions and fees paid to a lender or bank
* **Taxes:** Examples include sales, VAT or import taxes paid for a physical asset

## SECTION 4: PROFESSIONAL DEVELOPMENT AND TRAINING

Definition

This section includes expenses incurred for one-time or infrequent staff trainings.

Parameters

* **Lifetime (years):** For a routinely held training (e.g., one that is held every two years), indicate the estimated frequency of the training in years. For a training that was held once when the company or service provider first began operations and is not expected to ever be repeated, you may enter a lifetime of 100 years.
* **Year cost was incurred:** Indicate the year when the reported cost was incurred.

Cost items

* **One-time of infrequent staff training expenses**: Examples include single trainings that are held when a company or service provider first begins operations but that are not expected to be repeated or large trainings that are held routinely at a frequency less than once per year.

## SECTION 5: OTHER INDIRECT CAPEX

Any other capital investment into physical assets that occurs at a frequency of less than once per year, is needed to provide the core business activities that support transport, and does not fit into any of the other sections on this tab can be reported here. If there are multiple items that meet this description, the costs should be combined to report as a single item, and a weighted average should be used for the lifetime and year the cost was incurred. Use the notes column to describe what the item(s) are.

# 

# TAB 4: DIRECT OPEX

## OVERVIEW

Definition

**Direct OPEX** includes all operational costs that **directly** contribute to management of the transfer station and waste transportation. (Stumped on the difference between direct and indirect costs? See **INSIGHT 3.1** for the indirect CAPEX tab)

Common parameters

The following parameters to describe cost items are common throughout this tab:

* **Annual cost:** The cost incurred for each item over the course of a year
* **Currency:** Select the appropriate currency from the drop down box which should correspond to the currency specific to that particular cost. Different costs could have different currencies depending on how your organization reports these costs.
* **Confidence in cost estimate:** Indicate how confident you are in the reported cost. Answer choices include high confidence (approximately +/-5% from reported cost), fair confidence (approximately +/-15%), and low confidence (approximately +/-50% or more).
* **Indicate if cost is incurred but not reported:** Use an X from the drop-down menu to indicate if a cost that is incurred is not reported because it is not known or otherwise missing. If the cost is not reported because it is actually not incurred for your specific component, then you do not need to indicate that it is missing. This column helps us track missing costs for later data analysis.
* **Notes:** A more detailed description of what the cost item is or how the cost was determined. Any assumptions or calculations that were made to arrive at the cost estimate should be included here.

## SECTION 1: SALARIES

Definition

This section covers wage costs for all staff responsible for operating the transfer station or transporting waste from the transfer station to treatment and who are employed on an annual or long-term contract. Do not report wages for staff who are paid per job or per day on a variable basis or those who are self-employed or paid by commission, as these should be reported in Section 2.

Parameters

The parameters in this section are the same as those in the overview section.

Cost items

* **Transfer station operational staff**: Includes staff directly involved in the operation of the transfer station. Examples are workers who manage emptying of waste into the storage tank, maintaining the transfer station and supervising the site.
* **Drivers**: Includes salaried drivers who transport waste from the transfer station to a treatment site.
* **Other or combined staff directly responsible for operations at the transfer station or transport from transfer station to treatment**: If you pay any salaries for staff that do not match the descriptions for one of the above types, you can enter it here, or you may use this row to report the combined cost for all direct staff types if your financial records group them together. Use the notes column to provide more details about the items accounted for in the cost.

Frequently asked questions

|  |
| --- |
| **1. What is the difference between salaries in this section versus wages paid on a variable basis, and why are they reported separately?**  *Salaried staff include those who are employed on an annual or longer term contract and are paid a consistent wage regardless of the volume of waste processed, so their costs are fixed for a given year. Wages paid on a variable or casual basis include those for workers who are hired and paid on a daily or weekly as-needed basis and those who are paid by commission. In both cases, the wages paid will vary depending on the volume of waste processed. These variable costs should be reported in Section 2 instead of Section 1.*  **2. How do I report the revenue that we collect from manual pit latrine emptiers who discharge waste at our transfer station?**  *Revenue collected for accepting waste (i.e., tipping fees) should not be reported in this workbook. See Insight 4.1 for more information.*  **3. We do not directly employ a driver to transport waste to the treatment facility. We pay for this as a service from an independent vacuum truck operator. How do I report that cost?**  *You should leave the row for a driver blank in this section and then report your annual cost paid to the vacuum truck operator under the section for services on this tab.* |

## SECTION 2: VARIABLE STAFF PAYMENTS

Definition

This section covers costs for workers who are paid per job, per day/week/month or by commission on a variable basis.

Parameters

All parameters are described previously in the overview section.

Cost items

* **Wages or commissions paid to staff on a variable or casual basis:** Includes all wages paid over the course of the year for casual labor or workers paid by commissions
* **Other variable staff costs:** Includes any additional costs for staff that would vary depending on the number of containment facilities serviced in a given week or month. This might include short-term insurance for casual workers, phone credit, or meals purchased on a variable basis. Use the notes column to provide details about which costs are included.

## SECTION 3: FIXED NON-SALARY STAFF EXPENSES

Definition

This section includes the fixed annual expenses that are incurred on behalf of all staff and workers for items such as insurance costs and vaccinations that are not included in their salaries.

Parameters

All parameters are described previously in the overview section. The annual costs reported here should reflect the total annual cost incurred for all staff.

Cost items

* **Insurance:** Includes costs for all insurances and other similar items. Examples include health insurance, disability insurance, workers’ compensation and social security if those are not previously included in the reported salary.
* **Annual vaccinations**: Includes annual costs associated with vaccinations and other annual or routine health checks provided by the employer
* **Other or combined expenses**: Provide the combined cost for any expenses that are not explicitly listed above, or you may use this row to report the combined cost for insurance, vaccinations and any other staff expenses if your financial records group those costs together. Use the notes column to provide more details about the items accounted for in the cost.

Frequently asked questions

|  |
| --- |
| **What is the difference between “other costs” in Section 2 (Variable Staff Payments) versus Section 3 (Fixed Non-Salary Expenses)?**  *The primary difference is whether you would consider the cost as fixed or variable. If the cost is generally fixed for the year, then enter it in Section 3. If it is likely to change based on short-term (weekly or monthly) changes in the number of containment facilities that you service, then enter it in Section 2.* |

## SECTION 4: EQUIPMENT, LAND AND BUILDINGS

Definition

This section includes all direct annual costs incurred for equipment, land and buildings, which can include routine maintenance, rent, or replacement of items if done on a routine basis. Any costs already reported for equipment, land and buildings in the direct CAPEX tab should not be repeated here.

Parameters

All parameters are described previously in the overview section.

Cost items

* **Transfer station site:** Includes rent for a transfer station site and any routine maintenance at the site, such as painting or repairs of security fences or washing facilities
* **Transfer station storage tank:** Includes regular maintenance specifically for the storage tank at the transfer station. If this cost is not known separately from other maintenance at the transfer station, it can be reported with the row above instead.
* **Vacuum trucks:** Includes rent or regular maintenance of vacuum trucks that are used to transport waste from the transfer station to a treatment facility. This assumes that your organization either rents or owns vacuum trucks and that you operate them yourselves. If you pay an independent vacuum truck operator to transport the waste as a service, then that cost should instead be reported under Section 6 of this tab.
* **Parking or storage space for equipment or vehicles:** Includes rental or lease fees paid for garage or parking space for vehicles used for transporting waste and for storage space used for emptying equipment, if separate from the transfer station site.
* **Other or combined operational costs for equipment:** If you pay any operational expenses (rent, routine replacement or routine maintenance) for equipment that are not explicitly listed above, you may enter them here. You may also use this row to report the combined costs for any of the equipment listed above if you track the combined, rather than individual, cost. In the notes column, describe the cost types that are covered.
* **Other operational costs for land:** If you pay any operational expenses for land that is directly used for the emptying and transport service and is not covered by one of the other items above, you may enter it here. Use the notes column to describe how the land is used and what the cost covers.
* **Other operational costs for buildings:** If you pay any operational expenses for buildings that are directly used for the emptying and transport service and are not covered by one of the other items above, you may enter them here. Use the notes column to describe how the buildings are used and what the cost covers.

## SECTION 5: CONSUMABLES

Definition

This section includes annual costs for items that are regularly consumed and replaced and that directly contribute to the emptying and transport operation, such as fuel for vehicles that transport containers.

Parameters

All parameters are described previously in the overview section.

Cost items

* **Fuel**: Includes fuel used to transport waste to a disposal site or treatment centre
* **Lubricant**: Includes motor oil, pipe grease and other similar products used for vacuum trucks or other transport vehicles.
* **Personal protective equipment (PPE)**: Includes boots, overalls, reflective vests, safety glasses, gloves and any other protective gear used by workers
* **Cleaning supplies**: Includes chemicals such as bleach and disinfectants and supplies such as mops and buckets that are used for cleaning the transfer station, transportation vehicles or equipment
* **Water**: Includes costs associated with water used for cleaning the transfer station and equipment
* **Electricity**: If you pay an electricity bill for the transfer station, report that cost here
* **Other or combined consumables**: Provide the combined cost for any consumables that are not explicitly listed above, or you may use this row to report the combined cost for two or more of the items above if your financial records group those costs together. Use the notes column to provide more details about the items accounted for in the cost.

## SECTION 6: SERVICES

Definition

This section includes annual costs paid for professional services that are essential to deliver the emptying and transport service.

Parameters

All parameters are described previously in the overview section.

Cost items

* **Exhaustion service for transfer station**: Includes fees paid to a third party that routinely empties the waste accumulated at the transfer station and transports it to treatment. This item would apply if you pay for an independent vacuum truck operator to empty and transport the waste from the transfer station rather than doing it yourself.
* **Transportation, disposal or incineration services for managing solid waste (i.e., trash):** If a third party is paid to manage trash that is collected with sanitation waste, include the cost here. This might include collection of trash, transportation to disposal and disposal or incineration fees.
* **Maintenance services:** Any maintenance services that are paid to a third party can be provided here if they were not already included in the equipment operating expenses above.
* **Insurance that qualifies as a direct expense:** This would primarily include insurance required for transportation vehicles that are used to transport waste to treatment. If your organization records all insurance costs together and some are considered indirect expenses, then you may leave this blank and report all insurance costs on the indirect OPEX tab.
* **Other or combined services**: If you pay for any services that are not explicitly included above, you may provide those costs here. You may also use this line if you prefer to report the cost of two or more of the above services as a single combined cost. In the notes, describe the costs that are covered.

***INSIGHT 4.1***

|  |
| --- |
| **Revenue streams or fees paid between different sanitation actors**  In order to reduce variability caused by differences in organization and structure of different sanitation systems, the CACTUS method assumes that all elements of the sanitation value chain are operated by a single virtual operator. While this rarely occurs in real life, the important practical implication of this assumption is that any financial transactions between sanitation operators in different elements of the sanitation service chain should generally not be included in cost reporting. For example, if someone responsible for emptying and transport services pays a fee to the treatment plant to discharge the waste (i.e., a tipping fee or waste offtake fee), that transaction or cost will not be reported. This is because the fee paid to the treatment facility is used to offset the cost of treatment, and treatment costs would be reported as part of a separate treatment component. Similarly, transactions between households and operators providing emptying and transport services are also not reported.  However, if a fee is paid between actors *within the same element*, and it is reasonable to assume the fee represents the actual cost of providing the service, then it can be included. For example, this component falls under the transport element, which means it should include all costs for delivering waste to final disposal or a treatment site. If a fee is paid to an independent vacuum truck operator to transport the waste from the transfer station to a treatment plant, then that fee can be reported as a service for this component. |

## SECTION 7: ADMINISTRATIVE CHARGES AND PERMITS

Definition

This section includes annual costs paid for administrative charges and permits that are considered direct operating expenses. Examples include annual registration for transportation vehicles and annual permits required to manage waste. There is only one row in this section, which can be used to report the combined cost for all costs that match this description. Use the notes column to describe the costs that are covered.

# 

# TAB 5: INDIRECT OPEX

## OVERVIEW

Definition

**Indirect OPEX** consists of routine expense items or operational costs that **indirectly** support fecal sludge management services. These are most often costs that support core business activities. (Stumped on the difference between direct and indirect costs? See **INSIGHT 3.1** for the indirect CAPEX tab)

Common parameters

The following parameters to describe cost items are common throughout this tab. Any differences in these parameters seen in individual sections will be described separately in the corresponding section.

* **Annual cost:** The cost incurred for each item over the course of a year
* **Fraction applied to shared costs:** The fraction of the reported cost that should be applied to this component, which should be generated using the cost allocation methodology described in the Appendix. The fraction should be entered as a decimal equal to or between 0 and 1. (Stumped? See **INSIGHT 3.2** for the indirect CAPEX tab)
* **Currency:** Select the appropriate currency from the drop down box which should correspond to the currency specific to that particular cost. Different costs could have different currencies depending on how your organization reports these costs.
* **Confidence in cost estimate:** Indicate how confident you are in the reported cost. Answer choices include high confidence (approximately +/-5% from reported cost), fair confidence (approximately +/-15%), and low confidence (approximately +/-50% or more).
* **Indicate if cost is incurred but not reported:** Use an X from the drop-down menu to indicate if a cost that is incurred is not reported because it is not known or otherwise missing. If the cost is not reported because it is actually not incurred for your specific component, then you do not need to indicate that it is missing. This column helps us track missing costs for later data analysis.
* **Notes:** A more detailed description of what the cost item is or how the cost was determined. Any assumptions or calculations that were made to arrive at the cost estimate should be included here.

## SECTION 1: SALARIES

Definition

This section includes the salaries or wages paid to staff who indirectly support fecal sludge management services through core business activities.

Parameters

The parameters in this section are the same as those in the overview section.

Cost items

* **Sales and marketing staff:** Includes salaries paid for the sales and marketing team
* **Customer support and call centre staff:** Includes salaries paid for staff who provide customer support or staff a call centre to field requests from customers and schedule services
* **All other or combined indirect staff:** Includes combined salaries for any other office personnel (e.g., human resources, IT, accounting, finance, government relations and others), executives or other staff (e.g., government relations, research and development, external relations) who indirectly support the activities reported in this workbook. If it is simpler to combine sales, marketing, customer support and call centre staff here with the others, you may do so. Use the notes column to provide details about the type and number of staff if possible.

## SECTION 2: OTHER EXPENSES FOR INDIRECT STAFF

Definition

This section includes the annual expenses that are incurred on behalf of all indirect staff for items such as insurance and vaccinations that are not included in salaries. Note that the costs reported here should only reflect those incurred for indirect staff as similar costs for direct staff are reported elsewhere.

Parameters

All parameters are described previously in the overview section.

Cost items

* **Insurance:** Includes the combined costs for all insurances and other similar items. Examples include health insurance, disability insurance, workers’ compensation and social security if those are not previously included in the reported salary.
* **Annual vaccinations**: Includes annual costs associated with vaccinations and other annual or routine health checks provided for indirect staff
* **Other or combined staff expenses**: Provide the combined cost for any expenses that are not explicitly described above, or you may use this row to report the combined cost for two or more of the items above if your financial records group those costs together. Be sure to include the details of the included items in the notes cell.

## SECTION 3: PROFESSIONAL DEVELOPMENT AND TRAINING

Definition

This section includes all annual expenses incurred for professional development and staff training.

Parameters

All parameters are described previously in the overview section.

Cost items

* **All annual professional development and staff training**: Includes orientations, safety trainings, staff certification programs, and any annual staff development funds provided by the employer.

## SECTION 4: EQUIPMENT, LAND AND BUILDINGS

Definition

This section includes all indirect costs incurred for equipment, land and buildings. Costs can include routine maintenance, rent, or replacement of times if done on a routine basis.

Parameters

All parameters are described previously in the overview section.

Cost items

* **Office building:** Includes the office building rent if the building is not fully owned or long-term leased and any operational expenses for upkeep of the office that are not included elsewhere
* **Land:** Includes all rent or other operational expenses for land. This might be used if you pay rent specifically for the land that the office is built on, separate from the office itself. If there are multiple pieces of land that you incur annual costs for, you should enter the combined cost for all land here.
* **Office equipment:** Includes rent, maintenance, upkeep or routine replacement for office equipment such as computers, phones, desks, and chairs
* **Vehicles:** Includes rent, maintenance and upkeep on general use vehicles. These are vehicles used for general staff transportation and should not include any vehicles used directly for transportation of waste.
* **Other operational costs for buildings:** Include the combined cost for any annual expenses paid for buildings that should be classified as an indirect expense and are not the office building. This might include storage buildings or a warehouse.
* **Other or combined operational costs for equipment:** Include the combined cost for any annual expenses for equipment that were not included in the lines for office equipment or vehicles above.

## SECTION 5: CONSUMABLES

Definition

This section includes annual costs for items that are regularly consumed and replaced and that are considered indirect costs.

Parameters

All parameters are described previously in the overview section.

* **Utility expenses:**Includes utility expenses paid for the office such as water, electricity and internet. Input the cumulative utility expenses in this row and indicate the utilities that are included in the notes column.
* **Office supplies:** Includes any expenses associated with regularly purchasing consumables used in the office or to produce marketing materials such as paper, printer ink, pens, whiteboard markers, etc.
* **Fuel for general use vehicles:** Includes total annual expenditures on fuel for general use vehicles. Any fuel purchased for vehicles that directly provide waste transportation services, such as trucks used to transport waste to disposal or treatment, should not be reported here.
* **Other or combined consumable expenses:** Provide the combined cost for any consumables that are not explicitly described above, or you may use this row to report the combined cost for two or more of the items above if your financial records group those costs together. Be sure to include the details of the included items in the notes cell.

## SECTION 6: SERVICES

Definition

This section includes fees paid for professional services that support the fecal sludge management services offered by an organization

Parameters

All parameters are described previously in the overview section.

Cost items

* **Insurance:** Includes any insurance fees paid that are considered indirect expenses, excluding the insurance payments for employees which are included as staff expenses. Examples of insurance include fire insurance for the office building and liability insurance for the business.
* **Legal:** Includes fees paid to legal advisors for any legal processes required to operate the organization
* **Financial:** Includes any fees associated with financial advisory services received. Note that financing costs, such as interest on loans, are not included in this section.
* **Marketing:** Includes any fees paid for marketing services that are not already included as office supplies. This might include fees paid for radio advertisements or fees paid to a professional marketing firm.
* **Consulting or advisory:** Includes any fees associated with professional advisory or consulting services that are not considered financial, legal or marketing
* **Other or combined services:** Provide the combined cost for any professional services that are not explicitly listed above, or you may use this row to report the combined cost for two or more of the items above if your financial records group those costs together. Be sure to include the details of the included items in the notes cell.

## SECTION 7: ADMINISTRATIVE FEES, TAXES AND FINANCING

Definition

This section includes annual costs for licenses, permits, taxes, and financing charges that are not already accounted for in one of the CAPEX tabs.

Parameters

All parameters are described previously in the overview section.

Cost items

* **All administrative charges and permits considered indirect operating expenses:** Includes any administrative fees, licenses (including software licenses and general business licenses) and professional memberships for employees or for the organization
* **Annual taxes:** Includes any taxes paid annually that are not included elsewhere, such as property tax or income tax for a business
* **Annual financing charges:** Includes annual financing charges that are not already accounted for in one of the CAPEX tabs