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Product: Operator Assisted Sewer Information System (OASIS)

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# Table of Contents

Introduction to OASIS ................................. 1

Organization of the User Manual ................. 1
Ultrafast Start ........................................ 2

Chapter 1
Getting Started Guide .............................. 1-1

Before You Begin ............................... 1-1
What's In the Getting Started Guide .......... 1-1
Installing OASIS ................................. 1-2
About OASIS .................................... 1-3
Starting OASIS .................................... 1-5
Main Menu ........................................ 1-6
Features and Commands That Take Too Long to Figure Out On Your Own .............. 1-7
Manhole Data Form .............................. 1-11
Main Line Data Form ............................ 1-14
Service Lateral Data Form ....................... 1-16
Catchbasin/Stormdrain Data Form .......... 1-18
Septic Tank Data Form ......................... 1-20
Inspection Details Form ......................... 1-22
Preventive Maintenance Form .................. 1-24
Structure Search By Type and Location .... 1-25
Work Order Form ................................ 1-26
Find a Work Order by ID Number .............. 1-27
Customer Search by Name and Address .... 1-28
Work Order Search by Date, Type, Location . 1-29
Reports Catalog ................................ 1-30
Advanced Features ............................... 1-32
Program Administration Form .................. 1-33
Sample Sewer Data Maps ....................... 1-34

Chapter 2
OASIS Project Guide .............................. 2-1

Organization of this guide ....................... 2-1
Customize the OASIS Lookup Tables ........ 4-48
Delete a Lookup Code ............................ 4-54
Delete the OASIS Sample Data .............. 4-55
Delete Records ................................. 4-58
Delete a Street Name ......................... 4-59
Duplicate a Record ......................... 4-59
Enter Address and Location Information for a Structure or Work Order ........ 4-60
Enter Condition Assessment Ratings .... 4-63
Filter Records ................................. 4-66
Find and Replace Data ..................... 4-68
Find a Structure Record .................... 4-71
Find a Work Order Record .................. 4-73
Import Inspection Records ............ 4-75
Print Records and Reports ............. 4-79
Run a Report .................................. 4-79
Schedule Inspections ...................... 4-80
Schedule Preventive Maintenance ........ 4-82
Search for a Customer Record .......... 4-84
Search Inspection Schedules .......... 4-87
Search Preventive Maintenance Schedules ... 4-91
Search Work Order Records ........... 4-95
Search for an Inspection Record ........ 4-98
Search for a Preventive Maintenance Record 4-98
Search Structure Records .............. 4-99
See All the Records in the Database ...... 4-102
Sequence/Re-sequence Prev Maintenance 4-102
Set the Default Codes .................... 4-113
Show Records in Datasheet View ........ 4-115
Sort Records ................................. 4-117
Tips and Tricks and Keyboard Shortcuts ... 4-120
Update Inspection Records From an Insp List 4-122
Update Prev Maint Records From PM List ... 4-125
Use the “Show All” command ............. 4-128
View a Schematic Drawing of a Main Line ... 4-128
Chapter 5
Reports Guide ..................................................... 5-1
Organization of this guide .............................. 5-1
Before you begin .............................................. 5-1
Overview .................................................. 5-2
Opening the Report Catalog ............................ 5-3
Select a Report Category ................................. 5-4
Run a Report ................................................. 5-5
Zooming the Screen Size of a Report ............... 5-6
Features of an OASIS Report ............................ 5-6
Paging Through a Report ................................. 5-7
Printing a Report ............................................. 5-8
Exporting a Report .......................................... 5-8
Closing a Report ............................................. 5-8
Report Names ................................................. 5-8
Using the Report Criteria Wizard .................... 5-9
Setting Date Criteria in the Wizard ................. 5-9
Setting Field Criteria in the Wizard ................. 5-13
Setting the Sort Order in the Wizard ............... 5-18
Hiding Report Details with the Wizard ............ 5-19
Setting the Report Output with the Wizard ....... 5-20
Removing Criteria with the Wizard ................. 5-22
Grouping Data with the Wizard ....................... 5-23
Setting the Join Criteria With the Wizard ......... 5-26
Advanced Usage of the Report Catalog ............ 5-27

Appendix A-1
OASIS Technical Guide ........................................ A-1
Organization of this guide ......................... A-1
Before you begin ........................................ A-1
OASIS Files .......................................... A-1
Using OASIS with Microsoft Access Already Installed On Your Computer .......... A-3
OASIS Installation Details ......................... A-3
External Access to OASIS Data .................... A-5
Removing / Uninstalling OASIS ................. A-7
Database Documentation ............................. A-8
........................................OASIS Table Definitions A-10
Appendix B-1

Lookup Table Default Values ............................................. B-1
  Organization of this appendix ............................. B-1
  Before you begin ............................................. B-1
  List of Tables .................................................. B-1

Appendix C-1

Data Definitions ............................................................. C-1
Introduction to OASIS

Organization of the User Manual

This introduction provides a description of the organization of the OASIS User Manual.

The manual is specially organized to allow you to remove a chapter, photocopy it, and give it to an employee or team of employees so they can accomplish tasks that are specific to them, without having to carry the entire manual around with them.

For those of you who have very strong technical skills and experience and also have no patience, this introduction contains an Ultrafast Start section. The Ultrafast Start is not much more than an outline of tasks to get you up and running. If you use the Ultrafast Start, you’ll have to ‘fill in the blanks’ as you go along, using your experience and intuition.

Everyone else should begin with the Getting Started Guide.

Chapter 1 - the Getting Started Guide - is an overview of OASIS. There are reproductions of all the major screen forms in OASIS, and there are maps of a fictitious sewer system called the “Metro Sewer District.” The maps illustrate the location and attributes of the sample data that is included with OASIS.

Chapter 2 - the Project Guide - provides instruction on how to implement OASIS in a wastewater collection system agency. There many considerations to be taken into account when computerizing sewer data, including an implementation plan which this chapter discusses.

Chapter 3 - the Operations Guide - addresses concepts, tasks, and program features that are important to an agency’s operations and maintenance staff, or their contractor(s). These include preventive maintenance, inspections, and work orders.

Chapter 4 - the Cookbook - is a list of commonly used commands organized to answer the question: “How do I do this?” For example, this chapter contains the answer to the question: “How do I delete a record?”

Chapter 5 - the Reports Guide - discusses the built-in OASIS reports and how to customize them with your own parameters.

At the end of the manual are Appendices including Appendix A - the Technical Guide - that gives detailed instructions on installing OASIS (especially important in LAN or WAN environments), configuration, database maintenance, external data access, and support.

Other appendices include the lookup table contents and data definitions.
Ultrafast Start

Ultrafast Start Overview

This Ultrafast Start is designed to give the user the fastest possible way to get OASIS up and running, following this general pattern:

1 Install OASIS.

2 Look at the sample data that comes with the program so you can get a good idea of how it runs.

3 Learn how the Report Catalog works using the sample data.

4 Delete and refresh the sample data, if needed.

5 Start using OASIS for your service emergency/complaint work orders.

6 Build your manhole and main line records. (And service lateral/catchbasin/septic tank records, if applicable.)

7 Create scheduled work orders for repairs.

8 Set up a preventive maintenance schedule. Do the pm’s and store the activity in OASIS.

9 Set up an inspection schedule. Inspect the sewer system and store the inspection results in OASIS.

10 Give the structures (manholes, main lines, etc.) a condition assessment rating.

11 Run reports on what you’ve entered in OASIS. (This can be done at any time during the data-entry process. You don’t have to wait until everything is entered in order to run reports.)

Instructions for each of the above steps are described below.

Ultrafast Start Step-by-Step Instructions

1 Install OASIS.

   The installer program will handle all the details. (If you’re installing OASIS to be used over a network, please consult Chapter 6, “OASIS Technical Guide.”)

2 Look at the sample data that comes with the program so you can get a good idea of how it runs.

   There are maps in the "Getting Started Guide" that illustrate the sample data.
Using OASIS is "point and click" all the way. There are 3-6 tabs at the top of each screen form. Click on each tab to look at different parts of the form.

At the bottom of each form are the command buttons. Most are self-explanatory. The only unusual button is the “Show All” button. "Show All" loads all the records from a table into memory because OASIS normally loads only the FIRST record from a table, in order to save time.

When you want to browse all the records in a table, click "Show All". Otherwise, use the "Find" and "Search" buttons to look for specific records.

3  **Go through all of Chapter 5, Reports Guide.**

The examples depend on having the sample data in the database.

Reports are pre-designed and included with the database. However, they are parameter driven by the user, and thousands of criteria combinations are available. Laser and inkjet printers are both supported.

4  **Delete and refresh the sample data, if needed.**

See "Delete the OASIS Sample Data" on page 4-55 for specific instructions on this topic.

5  **Start using OASIS for your service complaint/emergency work orders.**

You don’t have to enter all of your structure records (manholes, main lines, etc.) in order to use the OASIS work order feature. You can use OASIS right away because only a small amount of customization is required before doing work orders.

You need to customize two lookup tables in OASIS, the one that contains the list of all the street names under the jurisdiction of your agency, and the one that contains the list of all the cities/counties under the jurisdiction of your agency.

- Click "Program Administration" on the main menu.
- Click "Add or Change a Street Name" on the Program Administration menu.
- Follow the instructions on the pop-up form to enter each street name. (It may be tedious to enter all the names one-at-a-time but OASIS is very careful about cross-checking street names, so there is a good reason for the way this process was designed!)
- When you’re done with the street names, double-click on the "City Codes" line in the big listbox above the "Add or Change a Street Name" button.
  A short list of codes and descriptions of the sample cities will appear.
- Enter a code and description for each city served by your jurisdiction. Do this by using the blank line at the bottom of the list. As you enter each code, a new blank line will appear at the bottom.
  Hint: Enter a code for each county served by your jurisdiction, also. This will allow you to correctly locate sewer structures located outside incorporated areas.
Delete the sample city codes by clicking on the left side of each line. Then select the pull-down menu labeled "Records" from the top of the screen, and then pressing the "Delete" key on your keyboard.

See "Add a Lookup Code" on page 4-2 for specific instructions on this topic.

6 Customize the Street Name lookup table.

Data consistency on screen forms is enforced by the widespread use of lookup tables that are customizable through the “Program Administration” screen (accessed from the Main Menu). They must be customized before entering any “real” data.

7 Structure ID numbers, e.g. manhole numbers, must be unique. All other unique numbers are auto-generated.
Chapter 1
Getting Started Guide

Before You Begin

• You should know how to use a computer that has Microsoft Windows (any version from 95 on up) installed on it, and can do the basic mouse functions such as clicking and dragging.
• You should have a reasonable understanding of wastewater collection system operations, although this is not absolutely required.

What’s In the Getting Started Guide

• The Getting Started Guide is a picture book that will take you through the OASIS program. Along the way, you’ll find yourself learning how to use the program, but none of it is difficult or hard to remember.

   NOTE: This Getting Started Guide is actually the first chapter of the main OASIS documentation - the OASIS User Manual - which is available by download or from the OASIS CD. The User Manual contains significant detail and instructions on different aspects of OASIS.

   However, the User Manual has many more pages than the Getting Started Guide and it didn’t seem justifiable to require you, the beginning user, to print all those pages just to get started with OASIS.

   The downside of not printing the entire user manual is that you will see references in the Getting Started Guide that point to other chapters. (The references begin with Chapter 2 and higher.) If you want to pursue any of these references, you will have to open and/or print the chapter containing the referenced material.

• In order to have OASIS make sense, it comes with a full-fledged set of sample data that appears in the OASIS screen forms. You can “play” with the sample data as much as you want without affecting your agency database, and you can also start over with a “clean” copy of the sample data anytime you want. (Very handy to have if you think you botched something up...)

   The sample data is organized around a fictitious sewer system called the “Metro Sewer District”. For your reference, there are maps of the system at the back of this guide to help you understand how the data is laid out. And yes, the data is hydraulically correct, i.e., water does not run uphill in the Metro Sewer District!
Installing OASIS

Please note that these maps were not produced by the OASIS program. (Sorry!) They were hand-drawn using Microsoft Visio and then imported into the user manual. However, although OASIS is not sewer mapping software, the data you enter into OASIS is fully accessible by all the popular mapping programs such as ArcView, MapInfo, etc. For more details, see "External Access to OASIS Data" on page 6-4.

Installing OASIS

1. If you downloaded OASIS from the web, find the folder where you stored the downloaded file. The file is named OASISNew709.exe. (The number in the filename, in this case “709”, changes periodically as newer versions are released, so your filename may include a different number than “709”.

   NOTE: For better or worse, there is no uniform place where files are stored after being downloaded from the web, so this guide is unable to tell you where the OASIS file is located on your computer. If you don’t remember where the file was stored, use the Windows Explorer (it’s one of the menu options that appear when you right-click the “My Computer” icon) to find the OASIS file.

2. Once you’ve located the OASIS file, just double-click it to run the setup program, and proceed with step 4 below.

3. If you are installing OASIS from the OASIS CD, it works just like any other CD running on a Windows-based computer. Just put it into your CD drive and it will start by itself.

   If, for some reason, the CD doesn’t start automatically, use the Windows Explorer to find the file on the CD named “setup.exe”. After you’ve located it, double-click it to begin the installation program.

4. After the setup program begins, you will be offered several menu choices where you can learn about OASIS, install OASIS, view/print documentation, etc.

   If/when you choose to install OASIS, there is an automatic installation program that will pretty much run itself. You will be offered several options during the installation but we suggest that you accept the defaults that are offered.

5. After the installation is complete, you can continue to look at other parts of the CD, or simply exit.

   NOTE: Installing (or removing) OASIS will NOT interfere with any versions of Microsoft Access that are already on your computer or will be installed in the future. OASIS (legally) uses its own set of Access files that are completely independent of any Access files installed by Microsoft Office.

   For more details, see "Using OASIS with Microsoft Access Already Installed On Your Computer" on page 6-2.
About OASIS

This is a short section that gives a global overview of the capabilities of OASIS. Chances are you have already read something about OASIS elsewhere, but this was included for the sake of completeness in case this is your first exposure to the program.

Information Storage Features

OASIS - the Operator Assisted Sewer Information System - is a computer software program for managing sewer systems, written in Microsoft Access. OASIS keeps track of the sewer system’s location, specifications, history, inspections, condition scores, preventive maintenance, and work orders.

OASIS stores important information about each of the structures most commonly found in a collection system:

- manholes
- main lines
- service laterals
- catchbasins/storm drains
- septic tanks

For each of these structure types, the program keeps specific details in each of seven areas:

- Location, including address and mapping coordinates
- Specifications, including size, length, depth, etc.
- Background history, including date of construction and ownership
- Inspection information, including inspection type and scheduled inspection dates.

**NOTE:** An important feature of OASIS is the program’s ability to import field/TV inspection data captured on a laptop computer by the field crews.

- Condition scores that resulted from inspection, including ratings for structural integrity, debris, root intrusion, inflow/infiltration, odor, and vermin.
- Preventive maintenance schedules, including the type of maintenance and its frequency
- Work orders, including the type and amount of work recommended (from a pm schedule, for instance) as well as the actual amount of work done at the structure.

Complaint Handling Features

Besides structure work orders (above), OASIS keeps track of the work orders that begin when a member of the public calls in a complaint. If/when a field crew determines the ID number of the structure where the problem was, you can later link the complaint work order to the structure’s OASIS record.
Reporting Features

OASIS has a very extensive built-in reporting system with dozens of pre-constructed reports that you can customize yourself. All of the reports are grouped into general categories.

You can set specific parameters for each report. For example, if you want to see all the main lines built within a certain date range, you can specify the date range when you run the report.

In addition, your OASIS data is directly addressable by external report writers such as Crystal Reports. For more details, see "External Access to OASIS Data" on page 6-4.

Y2K Compliance

• Because OASIS is a Microsoft Access database, it takes advantage of all the functionality built into Access to handle date ranges up to the year 9999.

• All the date fields in OASIS are four-year dates and you must enter a four-year date everywhere a date is stored in OASIS. For example, you cannot enter “98” as a year, you must enter “1998”.

• The default date that appears in the “Date Built” field for each structure is 01/01/1700. However, you can enter an earlier date back to the first century A.D. if you are operating exceptionally old sewers. (!)

• OASIS uses 2200 A.D. as the default ending date for date ranges.
Starting OASIS

1. Once OASIS is installed, start OASIS by:
   - Double-clicking the OASIS icon on your desktop:

To run OASIS using the SAMPLE data, double-click the yellow OASIS icon:

![OASIS Sample Sewer Data...]

To run OASIS using your AGENCY data, double-click the black OASIS icon:

![OASIS Sewer Database]

OR

- Click the “Start” button in the lower lefthand corner of your screen to make the Start Menu appear.
- Click the word “Programs” on the vertical “Start” menu.
- Use the Start menu to open up the list of programs on your computer. Look for the name “OASIS Sewer Database” in the list.
- In the OASIS group you will find icons with manholes on them. The program titles are “OASIS Sample Database” or “OASIS Agency Database”. Click the OASIS icon of your choice.

![Start Menu with OASIS Sewer Database]
The Main Menu is your entry point into OASIS. Decide what part of OASIS interests you the most, and click the appropriate button to see short descriptions of features and commands.

Each of the page references listed below matches a button on the Main Menu.

- Manhole Data Form: see page 1-11.
- Main Line Data Form: see page 1-14.
- Service Lateral Data Form: see page 1-16.
- Catchbasin/Stormdrain Data Form: see page 1-18.
- Septic Tank Data Form: see page 1-20.
- Structure Search By Type and Location: see page 1-25.
- Work Order Form: see page 1-26.
- Find a Work Order by ID Number: see page 1-27.
- Customer Search by Name and Address: see page 1-28.
- Work Order Search by Date, Type, and Location: see page 1-29.
- Reports Catalog: see page 1-30.
- Advanced Features: see page 1-32.
- Program Administration Form: see page 1-33.

Don’t worry about not seeing instructions on using the features and commands - they are explained in the other chapters. However, you should be familiar with the section that immediately follows this page: “Features and Commands That Take Too Long to Figure Out On Your Own.”
OASIS is easy to understand and use, often with little or no instruction. That is one reason it is so popular. Even so, there are a few things about the program that would probably take you a while to figure out, so here is a list of answers to some head-scratchers you might run across while you’re using OASIS.

- The “Show All” button

At the bottom of each form are the command buttons. Most are self-explanatory, like the “Print” button. The only unusual button is the “Show All” button. This button is important when you want to look at one record after another, known as browsing. When you’re first learning about OASIS you will find browsing useful because you can go from one record to the next, looking at the records and comparing one to the next.

To browse the database:

1. Click the “Show All” button. This loads all the records from the database into the computer’s memory.

2. Click the “Browse” buttons (also known as the navigation buttons) to go forward and backward through the database. (See the illustration below for the location of the Browse buttons.)

You will find that - as time goes on - when you are working with your own database you probably won’t do too much browsing. You’re much more likely to use the "Find" and "Search" buttons to locate specific records because day-to-day management of sewer data usually involves editing single records.

**NOTE:** Why have a “Show All” button in the first place? Glad you asked. By default, OASIS loads only the first record in a table when a form (not a menu) comes up on the screen. This is because loading all the records from a table into a form can be a time-consuming process and since you will usually be dealing with only one record at a time, OASIS takes the speediest approach possible.
Sample records: You can add, delete or modify any of the sample records as you wish. There is no need to worry about damaging or crashing the database or your computer. When you are finished exploring the sample data, there is a command on the Program Administration menu to delete the existing sample data and replace it with new sample data. Or you can start entering data into your agency database.

Screen background turns red: OASIS is programmed to change the screen background to the color red if you bring up a structure record that contains some important data that you should be alerted to:
- it is still under construction warranty (see manhole #504 in sample records)
- it is exceptionally hazardous (see manhole #507 in the sample records)
- it is not owned and/or maintained by your agency
- it is in a sump area and cannot drain by overland flow
• Using the **Form View** and the **Datasheet View**

OASIS has two ways of portraying structure data on the screen.

The Form View is the default view of the database records. It is the view that you normally see, as pictured below, which shows one record at a time.

![Figure 1-3. Form View of an OASIS structure record](image)

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**Chapter 1: Getting Started Guide**

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However, OASIS can also portray the data in a “spreadsheet” view with rows and columns, as shown below.

Figure 1-4. Datasheet View of OASIS structure records

1 To switch to Datasheet View from Form View:
   
   • Make sure you have clicked the “Show All” button or only one record will appear in the Datasheet View (1)
   • Click the “View” pull-down menu at the top of the screen and choose “Datasheet View”.
      
      OR
   • Click the “Datasheet View” icon on the toolbar at the top of the screen (it’s next to the printer icon - see illustration above).

2 To switch back to Form View from Datasheet View:
   
   • Click the “View” pull-down menu at the top of the screen and choose “Form View”.
      
      OR
   • Click the “Form View” icon on the toolbar at the top of the screen (it’s just to the left of the Datasheet View icon - see illustration above).

You can edit data in Datasheet View the same as in Form View, and you can sort and filter data the same as in the Form View. The handy thing about sorting and filtering in the Datasheet View is that you can see many records all at once instead of one-at-a-time like the Form View. That makes it easier to determine if you’ve sorted and/or filtered the data the way you intended!

See "Filter Records" on page 4-66 for specific instructions on this topic.
Features that are unique to manholes:

- OASIS uses the manhole form to store records about any type of connection point in a main line, including regular gravity sewer manholes, lampholes, pump stations, force main relief valves, combined sewer overflows, etc.

- The manhole form - like all the other structure data forms - has five tabs on it running along the top named **Location, Specs, Background, Inspection, and Condition**. Move to any tab by clicking on it.

- You can store as much or as little information as you want for each manhole record. The only required field is “Manhole ID” where you must enter a unique identification number

- Most fields with a combo box (combo boxes have a small downward pointing arrow on the right side) are driven by a customizable lookup table. To open a combo box, just click on the arrow, and the box will open for you to make a choice.

- You can change the address style of a manhole from intersection to street address by checking the box marked “Intersection”. Intersection addresses are displayed as 2 crossing streets while street addresses are shown as an address number, street, and the 2 nearest cross-streets.

- Click on “Show All” to make all the manhole records available for browsing with the navigation buttons. For more details, see "Features and Commands That Take Too Long to Figure Out On Your Own" on page 1-7.

- Click on “Print” to print a paper copy of the entire form, including the contents of all of the tabs.
Manhole “Specs” Tab

Manhole “Background” Tab
### Manhole “Inspection” Tab

![Manhole Data Form](image)

In the “Inspection” tab, you can fill in information such as:
- **Location**
- **Specs**
- **Background**
- **Condition**
- **Inspection Method**
- **Inspection Frequency**
- **Inspection Last Done**
- **Inspection Next Due**
- **Inspection Team ID**
- **Inspection Team Index**
- **Inspection Crew ID**
- **Inspection Crew Hours**
- **Inspection Quick Rating**
- **Inspection Notes**

### Manhole “Condition” Tab

![Manhole Data Form](image)

In the “Condition” tab, you can input:
- **Structural Ratings**
- **Ground Water**
- **Roots**
- **Hole Linings**
- **Odor**
- **Vegetation**
- **Surcharge**

These ratings help in assessing the condition of the manhole structurally and functionally.
OASIS uses the main line form to store records about any type of main line, including regular gravity sewers, storm sewers, interceptors, force mains, etc.

The main line form - like the manhole form and all the other structure data forms - has five tabs on it running along the top named Location, Specs, Background, Inspection, and Condition. Move to any tab by clicking on it.

Store as much or as little information as you want for each main line record. The only required fields are the “Upstream Manhole ID” and the “Downstream Manhole ID” where you must enter a unique identification numbers that match two unique manhole records already stored in OASIS.

If you don’t already have the manhole records in OASIS when you go to build main line records, you can click the “Create Instant Manhole Records” button in the middle of the form to create the records on-the-fly!

OASIS automatically creates a Main Line ID using the two manhole numbers and fills in the Main Line ID field for you.

If you want to examine/edit the upstream or downstream manhole record(s) while you’re in the main line form, click the “Visit” button at the right of each manhole ID field to jump to the record.

If you want to see (and print) a visual picture of the main line record, click “Go To Schematic” to have a simple diagram pop up on the screen. Having a printed copy of a main line record is often helpful to field crews.

Main line addressing is done with street addresses (no intersections) because main lines - unlike manholes - are generally not confined to intersections because of their length.

New main line records all have a default construction date (See the “Background” tab on the form) of 1/1/1700 to ensure that even the oldest active sewers are accounted for.
Main Line “Specs” Tab

![Main Line Data Form - Spec Tab]

Main Line “Background” Tab

![Main Line Data Form - Background Tab]

Main Line “Inspection” and “Condition” Tabs

The “Inspection” and “Condition” tabs are the same for all five structure types. (See “Manholes”.)
The service lateral form - like the manhole form and all the other structure data forms - has five tabs on it running along the top named **Location**, **Specs**, **Background**, **Inspection**, and **Condition**. Move to any tab by clicking on it.

- Store as much or as little information as you want for each service lateral record. The only required field is the “Service Lateral ID” which must have a unique ID number in the database.
- The “Drains To This Structure” field allows you to store the ID of the main line, manhole, or septic tank that the service lateral drains to.

OASIS will automatically check to see if the ID number you enter into the “Drains To” field is in the database. If it isn’t, you can search among the database records and pick out an ID number to enter. (Sorry, no creating manhole/main line records on-the-fly in this form!)

If you want to examine/edit the record of the structure where the service lateral drains to, click the “Visit” button at the right of the “Drains To” field.

- The “Specs” tab contains fields to store important identification information about the service lateral including the assessor’s parcel number, billing number, SIC code, and discharger ID.
- The “Background” tab on the service lateral form (and all the other structure data forms also) contains fields to store information about construction warranty, ownership and maintenance responsibilities.
Service Lateral “Specs” Tab

Service Lateral “Background” Tab

Service Lateral “Inspection” and “Condition” Tabs

The “Inspection” and “Condition” tabs are the same for all five structure types. (See “Manholes”.)
The catchbasin/stormdrain form is very much like a combination of the service lateral form and the manhole form. CB/SD’s have a “Drains To” field like service laterals and a “Specs” tab like the manholes.

The catchbasin/stormdrain form - like the manhole form and all the other structure data forms - has five tabs on it running along the top named Location, Specs, Background, Inspection, and Condition. Move to any tab by clicking on it.

Store as much or as little information as you want for each catchbasin record. The only required field is the “Catchbasin/Stormdrain” which have a unique ID number in the database.

The “Drains To This Structure” field allows you to store the ID of the main line or manhole that the catchbasin/stormdrain drains to. OASIS will automatically check to see if the ID number you enter into the “Drains To” field is in the database. If it isn’t, you can search among the database records and pick out an ID number to enter. (Sorry, no creating manhole/main line records on-the-fly in this form!)

If you want to examine/edit the record of the structure where the catchbasin/stormdrain drains to, click the “Visit” button at the right of the “Drains To” field.
Catchbasin/Stormdrain “Specs” Tab

Catchbasin/Stormdrain “Background” Tab

Catchbasin/Stormdrain “Inspection” and “Condition” Tabs

The “Inspection” and “Condition” tabs are the same for all five structure types. (See “Manholes”.)
The septic tank form - like the manhole form and all the other structure data forms - has five tabs on it running along the top named Location, Specs, Background, Inspection, and Condition. Move to any tab by clicking on it.

However, the septic tank form is significantly different from the other structures because septic tanks are not part of a pipe network although they have unrelenting maintenance requirements.

The “Specs” and the “Background” tabs contains basic capacity data as well as customer contact information.
Septic Tank “Specs” Tab

Septic Tank “Background” Tab
Septic Tank “Inspection” and “Condition” Tabs

The “Inspection” and “Condition” tabs are the same for all five structure types. (See “Manholes”.)

Inspection Details Form

Every structure has a subordinate inspection details record where you can record defects and other items noted during an inspection.

Although the form is optimized for pipe inspections (main lines and service laterals), it is quite usable for manhole, catchbasin/stormdrain, and septic tank inspections.

The only fields that are specific to pipelines are “Defect Starts” and “Defect Ends”.

The “Defect Quantity” field gets its default value (you can change it) by the automatic subtraction of the “Defect Starts” value from the “Defect Ends” value.

The “Defect Code” field is a customizable lookup table.

NOTE: Each defect code in the table can be given a matching repair action (if you wish) that automatically displays in the “Recommended Action” field of the Inspection Details form.

The “Recommended Quantity” field gets its default value (you can change it) from the number shown in the “Defect Quantity” field.

If you want a work order to repair a specific defect to be automatically generated by OASIS, click the “Do WO?” box. After you’ve gone through the whole form, click “Create WO’s From Marked Inspection Details” at the bottom of the form.
The work orders will be generated and the work order ID will be written into the “WO ID” field after each marked defect.

- If you are running OASIS on a laptop in the field, click “Export Inspection Details” at the bottom of the form when you’re done with an inspection. OASIS will write out the data to a floppy disk which can be uploaded into the office computer. For more details, see “Import Inspection Details” on page 1-32.
Each structure can have an almost unlimited number of PM’s associated with it.

- The “PM Type” field is a customizable lookup table.
- If the structure is a main line or a service lateral, OASIS automatically sets the “Workload” field to the same value as the structure’s “Length” field.
- The “Frequency” field ranges from one day to 20 years.
- The “Next Due” field is calculated automatically by adding the “Frequency” to the “Date Last Done”.
- The “Late” field gets a checkmark from OASIS if today’s date is later than the “Next Due” date.
- To find a particular PM value(s) and/or generate work orders for the PM(s), click the “Find PM’s/Create PM Works” button at the bottom of the screen.
As a collection system operator, you are often required to find structures in the database using criteria other than the structure ID number.

This screen gives you many different ways to search for structures.

You fill in what information you have, such as a street name or a range of dates, and OASIS will produce a list of structures that match your criteria.

From the list of structures, you can click the structure you want to see and it will be retrieved to the screen.
The work order form has three tabs on it running along the top named Basic Data, Notes, and Background.

Move to any tab by clicking on it.

Store as much or as little information as you want for each work order. If you want to keep your records simple, just use the first two tabs, Basic Data and Notes.

If you want to keep a little more detail, use the Background tab also.
Find a Work Order by ID Number

Clicking the **Find a Work Order by ID Number** button on the Main Menu opens the work order form and then automatically opens a popup dialog box where you can enter:

- the ID number assigned to the work order by OASIS

  or

- the ID number you use to identify your paper copy of a work order. This might be a serial number you have preprinted on your forms.
Customer Search by Name and Address

Figure 1-15. Search For Customers Screen

Clicking the **Customer Search by Name and Address** button opens the form for searching out customers by name and/or address.

- You fill in what information you have, such as a street name, and OASIS will produce a list of customers that match your criteria.
- From the list of customers, you can click the one you want to see and it will be retrieved to the screen.
As a collection system operator, you are often required to find work orders using criteria other than the work order ID number.

This screen gives you many different ways to search for work orders.

You fill in what information you have, such as a street name or a range of dates, and OASIS will produce a list of work orders that match your criteria.

From the list of work orders, you can click the work order you want to see and it will be retrieved to the screen.
You can construct reports simply and easily by using the Reports Catalog. All you do is point and click the various choices and OASIS builds the report immediately, as shown below.
**OASIS Structure Data Report for OASIS Demonstration Version**

**ML 01: Main Line Inventory - Date Built - Not grouped**

**Criteria:** Show records where Date Built date contains any date value or is blank. And Structure Group = ML Main Lines.

**Started By/Size in Ascending order.**

<table>
<thead>
<tr>
<th>Structure ID: Address Location</th>
<th>Length</th>
<th>Size</th>
<th>Material</th>
<th>Pile</th>
<th>Depth</th>
<th>Length</th>
<th>Slope</th>
<th>Size</th>
<th>Cost</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>500-900</td>
<td>SA</td>
<td>5</td>
<td>VGF</td>
<td>13</td>
<td>100</td>
<td>CCR</td>
<td>$100,000</td>
<td>SEA</td>
<td>BIR</td>
<td></td>
</tr>
<tr>
<td>Birch Rd. - Aspen St.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>500-000</td>
<td>SA</td>
<td>5</td>
<td>VGF</td>
<td>13</td>
<td>100</td>
<td>CCR</td>
<td>$100,000</td>
<td>SEA</td>
<td>BIR</td>
<td></td>
</tr>
<tr>
<td>Birch Rd. - Aspen St.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>500-000</td>
<td>SA</td>
<td>5</td>
<td>VGF</td>
<td>13</td>
<td>100</td>
<td>CCR</td>
<td>$100,000</td>
<td>SEA</td>
<td>BIR</td>
<td></td>
</tr>
<tr>
<td>Birch Rd. - Aspen St.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>500-000</td>
<td>SA</td>
<td>5</td>
<td>VGF</td>
<td>13</td>
<td>100</td>
<td>CCR</td>
<td>$100,000</td>
<td>SEA</td>
<td>BIR</td>
<td></td>
</tr>
<tr>
<td>Birch Rd. - Aspen St.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 1-18. Example of an OASIS Report**
Advanced Features

- **Import Inspection Details**
  OASIS can be run on a laptop computer operated by your TV inspection crews. When the crew is done with an inspection, there is a command button on the Inspection Details form that exports the data to a floppy diskette. When that floppy disk is returned to the office, you can use this button to import the inspection details to your main OASIS file. (For more details, see "Inspection Details Form" on page 1-22.)

- **Search Scheduled Inspections/Create Inspection Work Orders**
  OASIS makes provisions for each structure to be inspected on a regular interval and given a condition rating. You can find all the inspections that meet your specific parameters (e.g. all the inspection due next month) and then have OASIS create an inspection work order for each of those upcoming inspections.

- **Search Scheduled PM’s/Create Preventive Maintenance Work Orders**
  Similar to the discussion above regarding inspections. However, a structure may have an almost unlimited number of PM’s. This function allows you to select the PM’s you want to see, and then - at your option - create work orders to match.
Set Lookup Table Codes
Most of the OASIS forms have fields that are controlled by lookup tables. For example, each structure has a field that describes what material the structure is made of, such as vitrified clay pipe (VCP) or polyethylene pipe (PEP) or brick (BRK). You can set up the lookup table entries based on the values used by your agency, or use the ones provided with OASIS.

Add or Change a Street Name
Because street names are so critical to identifying structure/work order locations, the street name lookup table uses a special procedure to keep your database correct. When you want to add or change a street, OASIS will traverse your database and update all relevant records.

Set Default Codes
OASIS has a number of default settings for certain values that tend to be repetitive. For example, you can set the default main line type code to whatever value you most often use.

Set PM History Preference and Set Inspection History Preference
OASIS has a feature that allows the user to keep a preventive maintenance and inspection history. This command button allows you to customize specific preferences.

Use PM Sequencing Manager
OASIS allows you to set an exact sequence for dispatching pm crews.

Use Fresh Sample Data
Click to start over with fresh sample data. (Only appears when using the sample database.)
Sample Sewer Data Maps

- There are four sewer maps, published on each of the next four pages that illustrate the sample data found in the sample OASIS files. The maps and diagrams can be used to experiment with data entry and running reports.

  For instance, you can run a report of all the main lines (or manholes, service laterals, catchbasins, or septic tanks) that have addresses on a particular street.

  Such a report, for all main lines constructed of vitrified clay pipe (VCP) that are on Aspen St., is shown later in the manual where Basic Reports are explained. For more details, see "Structure Search By Type and Location" on page 1-25.

- There is one elevation detail showing construction details for main lines 501+502 and 502+503. These details can be used by you when building sample reports.
"Metro Sewer District" System Map of Sample Data

- This map shows the sample sewer system without the boundary divisions that appear on the other maps.
- The solid lines are sanitary sewers.
- The dashed lines are storm sewers.
- Catchbasins/stormwater inlets appear on most corners and sometimes mid-block.
- There are two septic tanks.

Sanitary & Storm Sewer Map of the Anytown/Bigtown Metro Sewer District

Figure 1-21. Storm and Sanitary Sewer Map of the “Metro Sewer District”
“Metro Sewer District” Drainage District and Field Map Boundaries

- This map shows a drainage district boundary the runs behind the houses on the north side of Birch Road.
- The field map ID’s (#01 and #02) follow the same boundary as the drainage districts.

![Diagram of drainage district and field map boundaries](image)

Figure 1-22. Metro Sewer District Showing Drainage District and Field Map Boundaries
“Metro Sewer District” Neighborhood Boundaries

The use of the term “Neighborhood” in OASIS can be used to describe more than just traditional neighborhood areas, which is what’s shown on this map.

It can also be used to describe tract developments, unincorporated communities, etc.

**Figure 1-23. Metro Sewer District Showing Neighborhood Boundaries**
“Metro Sewer District” City Limit Boundary

In situations where there is more than one city or town served by the sewer agency, OASIS distinguishes between the various incorporated areas.

Figure 1-24. Metro Sewer Map Showing City Limits Boundary
Main Line Elevation Detail Plan

This elevation sketch gives some construction details that can help you build test reports based on the sample data.

![Elevation View of Sanitary Lines 501+502 and 502+503:](image)

Figure 1-25. Elevation Details for Selected Main Lines
Chapter 2
OASIS Project Guide

Organization of this guide

This guide is designed for the person who is responsible for setting up OASIS in the sewer agency, either an agency employee or a consultant.

Setting up OASIS is, of course, different than using OASIS on an everyday basis.

- Setting up OASIS involves configuration and initial data-entry, and is covered in this guide. There are a number of logical steps to the set-up process, most of which have to do with organizing data and planning the uses of OASIS within the agency. These steps are laid out in sequence on the following pages.

- Using OASIS for ongoing tasks is covered in Chapter 3, “OASIS Operating Guide”.

NOTE: In reading the text, you will find references to what the “engineering staff” should do or what the “operations staff” should do, etc. The author fully realizes that in a small agency, the OASIS project manager, the engineering staff, and the operations staff may well be just one person (you!), a small group of employees, or perhaps a consultant.

If that is the case, please use these references to provide general direction about what needs to be done even though you or a small group will end up doing it all yourself anyway!

Before you begin

- You should be familiar and comfortable with the Windows operating system including mouse usage.
Overview of the Project Steps

There are 14 steps to the process of setting up OASIS. Now, we know what you’re thinking: “14!” “Why so many?” “I thought OASIS was easy to use!” Well, in fact, OASIS is still easy to use even though there are 14 steps to get going with it.

The reason there are 14 steps is that OASIS is more than a software program. It is a collection system asset management tool designed to give you not only the means of storing data about your system, but also give you competent methods for running a preventive maintenance program, doing inspections, handling work orders, and producing reports. These functions - working in combination - provide a reliable means of complying with CMOM requirements and will yield the base information required for GASB 34 reporting. Now, that’s collection system management!

(Another reason there are 14 steps is that we didn’t want it to have 12 steps, or OASIS might end up being confused (?) with other, more well-known personal improvement programs commonly known as “12-step programs”!)

So, what are the 14 steps?

1) Install OASIS
2) Explore the OASIS sample data
3) Delete and refresh the sample data, if needed
4) Review the process of implementing OASIS
5) Use OASIS for complaint-based work orders
6) Decide what structure data to store in OASIS
7) Decide who in your agency is responsible for collecting and maintaining what data
8) Number the manholes in your system if they are not yet numbered
9) Build the manhole and main line records
10) Build records of service laterals, catchbasins/stormdrains, and septic tanks, if necessary
11) Set up a preventive maintenance schedule
12) Set up an inspection schedule
13) Use OASIS for scheduled work orders
14) Use the report catalog

See? That’s not so bad, now, is it? When taken all together, the steps combine to form a complete collection system management tool - and you will find each of the steps easy to master.

So, on with the show...
General Layout of OASIS

NOTE: This section also appears at the beginning of the Getting Started Guide. You can skip ahead if you’ve already read it.

OASIS - the Operator Assisted Sewer Information System - is a computer software program for managing sewer systems, written in Microsoft Access. OASIS keeps track of the sewer system’s location, specifications, history, inspections, condition scores, preventive maintenance, and work orders.

OASIS stores important information about each of the structures most commonly found in a collection system:

- manholes
- main lines, sanitary and/or storm
- service laterals
- catchbasins/storm drains
- septic tanks

For each of these structure types, the program keeps specific details in each of seven areas:

1. **Location**, including address and mapping coordinates
2. **Specifications**, including size, length, depth, etc.
3. **Background** history, including date of construction and ownership
4. **Inspection** information, including inspection type and scheduled inspection dates.

   An important feature of OASIS is the program’s ability to import field/TV inspection data captured on a laptop computer by the field crews.

5. **Condition** scores that resulted from inspection, including ratings for structural integrity, debris, root intrusion, inflow/infiltration, odor, and vermin.

6. **Preventive maintenance** schedules, including the type of maintenance and its frequency

7. **Work orders**, including the type and amount of work recommended (from a pm schedule, for instance) as well as the actual amount of work done at the structure.
Project Steps

Step 1: Install OASIS

You have probably already done this by now. It is very easy to do. If not, or if you want to run OASIS over a network (LAN or WAN), please consult Appendix D, “Network Installations” for all the necessary instructions.

Step 2: Open the OASIS sample database and explore the data

Go through Chapter 1, “Getting Started Guide” if you haven’t already done so. It gives the best overall view of the program through its explanation of the sample data and maps.

- Spend some time looking at the sample data furnished with OASIS. Just click on buttons and form tabs to observe the data.
- As you can see, there is a lot of information you can store about a main line (or manhole, service lateral, etc.) but the important point is that no data is required except the structure ID number. All the rest of the fields are optional, so use just the ones that are important to your agency.
- Many of the data fields have drop-down style boxes containing lists of choices to pick from. (They are called - not surprisingly - “picklists”.
  The contents of those picklists are controlled by the OASIS lookup tables. You, the user, can change the contents of the lookup tables. (This is further explained below.)
- Turn to Chapter 5, the “Reports Guide” and learn about running reports. Run some report(s) from the OASIS Report Catalog. The sample data will be displayed in a report you can read on the screen and/or print on paper.

  NOTE: You can “play” with the sample data as much as you want without affecting your agency database, and you can also start over with a “clean” copy of the sample data anytime you want. (Very handy to have if you think you botched something up...)

  See "Delete the OASIS Sample Data" on page 4-55 for specific instructions.

Step 3: Begin Using Your Agency Database

When you are done experimenting with the sample data and are ready to use your agency database, start the agency version of OASIS.

It is no different in functionality from the sample database. The only difference is that the agency database doesn’t contain any data except the standard lookup tables.
Step 4: Review the OASIS implementation process

Implementing OASIS in a collection system agency happens in a series of steps, usually along these lines:

1. **Complaint work orders**: Set up enough information in OASIS so you can use the program right away for complaint/emergency work orders.

2. **Structure information**: Build your structure records with data about your manholes, main lines, service laterals, etc.

3. **Preventive maintenance**: Set up a preventive maintenance program with scheduled cycles of maintenance activities, especially for the problem areas in your collection system.

4. **Inspection**: Set up an inspection program with scheduled inspection cycles, especially for the older areas in your collection system.

5. **Scheduled work orders**: Create scheduled work orders for planned repairs/rehab/replacement activity in your collection system.

6. **Reports**: Run reports on all of the above. Actually, you can produce reports **anytime**, with the only difference being the quantity of information available for reporting.
Step 5: Use OASIS for complaint-based work orders

You don’t have to fill up the database with all of your system information (manholes, main lines, etc.) before using OASIS for work orders, and only a small amount of customization is required to get started.

In other words, you can use the program right away to handle complaints and emergencies from the public. Later, as your structure records become more complete, you can issue scheduled work orders for the manholes, main lines, etc.

1. Use OASIS to print an example of a work order. (Just click the “Print” button at the bottom of a work order form.)

2. Go through the work order form with your operations staff and decide which of the fields to use in your agency. If you don’t understand what a particular field is used for, consult Appendix C, “Data Definitions”, or press F1 while you’re in an OASIS field to get an explanation.

3. Don’t overdo it, because the more data you decide to use in the work orders, the more time it will take to enter each work order.

   **HINT:** Compare the OASIS work order form with the paper form you already use in your agency and choose the fields match.

4. When you’ve decided on what fields to use, mark the fields on the print-out(s) with a yellow highlighter and keep it for reference and future instruction.

5. Customize the two lookup tables listed below. These are the only two lookup tables that **must** be customized before doing complaint/emergency work orders because emergency work orders normally originate by street address.

   - the street names lookup table
   - the cities and/or counties lookup table

   See "**Customize the OASIS Lookup Tables**" on page 4-48 for specific instructions.

6. There are five tables that **may** be customized before using them although you are not required to do so for complaint work orders. You can leave the tables alone and begin using them with their default values, although you may want to customize them sometime in the future.

   However, in rare circumstances, you may want to undertake major editing of the tables. The five tables are:

   - **Action codes**, such as “CJET” for “cleaning with hydrojet” or “CVAC” for cleaning by a vac
   - **Crew assignment codes**, by type of work, such as “Cleaning Crew” or “Inspection Crew”
   - **Location reference codes** to describe a location such as “intersection” or “mid-block”
   - **Problem codes** such as “BBU” for “basement backed up” or “SSO” for sanitary sewer overflow
   - **Source codes** such as “Police Dept.” or “Fire Dept.” to indicate who report a complaint

7. To continue with this step:

   See "**Create a Complaint/Emergency Work Order**" on page 4-12 for specific instructions.
Step 6: Decide what structure data to store in OASIS

At this point, you can begin the process of building structure records where you store the inventory data about your collection system.

1 Use OASIS to print an example of each of these forms: (Just click the “Print” button at the bottom of each type of form.)

   • a manhole
   • a main line
   • a service lateral, if you have responsibility for service laterals
   • a catchbasin/stormdrain, if you have responsibility for cb/sd’s
   • a septic tank, if you have responsibility for septic tanks

Go through each of the structure print-outs (manhole form, main line form, etc.) with your engineering and operations staff and decide which of the fields to use in your agency.

Don’t overdo it, because each data item has to be researched and entered, which is time-consuming.

   HINT: If you don’t understand the usage or meaning of a field, consult Appendix C, “Data Definitions” for an alphabetical list of field descriptions. Or press the F1 key when you are in a field.

For starters, you might want to limit your data-entry to no more than these items:

   • Structure Type
   • Street or easement where the structure is located
   • Length, for main lines
   • Depth, for manholes
   • Size, in diameter for pipe and width for manholes
   • Material type (RCP, VCP, etc.)
   • Date of construction or most recent major rehab

Remember, the only required field in a structure record is an ID number.

2 When you’ve decided on what fields to use, mark the fields on the print-out(s) with a yellow highlighter and keep it for reference and your future research.

3 Customize the optional OASIS lookup tables.

If you decide to use any of the fields associated with the four tables listed below, the lookup tables associated with them must be customized before you can use them because they contain local information that is unique to your agency.

The four tables are:

   • Drainage district (drainage basin) codes
• Field map ID codes
• Neighborhood/subdivision codes
• ZIP Codes

There are three other tables which contain default values that can be used without modification unless desired:

• Construction method codes such as “LNI” for “Line, new installation” or “BUR” for pipe bursting
• Material type codes such as “PEP” for polyethylene pipe or “VCP” for vitrified clay pipe
• Structure type codes such as “MH” for regular manhole or “SA” for sanitary sewer

See "Customize the OASIS Lookup Tables" on page 4-48 for specific instructions.
Step 7: Decide who in your agency is responsible for collecting and maintaining what data

Because data organization can be an imposing task, you should decide who in your agency (or in combination with consultants/contractors) is responsible for the different types of data in OASIS.

Here is a suggested order of business for each of seven major areas of OASIS:

**NOTE:** The first five areas roughly correspond to the “tabs” that appear at the top of each structure form in OASIS, as illustrated in the Getting Started Guide.

**NOTE:** The table of responsibilities has been set to begin on the next page. This was done to make it easier to photocopy the tables for reference and editing purposes.
<table>
<thead>
<tr>
<th>Area of Responsibility</th>
<th>Description</th>
<th>Primary Responsibility</th>
<th>Secondary Responsibility</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location Data</td>
<td>Addressing, zone descriptions like drainage districts, neighborhoods, etc.</td>
<td>Engineering</td>
<td>Verification/checking from Field Operations</td>
<td></td>
</tr>
<tr>
<td>Specifications</td>
<td>Rim, invert, size, slope, etc.</td>
<td>Engineering</td>
<td>Verification/checking from Field Operations</td>
<td></td>
</tr>
<tr>
<td>Background</td>
<td>Age, cost, ownership etc.</td>
<td>Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspection Frequencies</td>
<td>Interval between inspections</td>
<td>Engineering</td>
<td>Field Operations</td>
<td>Background includes 2 items in that are very important to Field Operations: private maintenance responsibility for a structure, and the presence of exceptionally hazardous field conditions in/around a particular structure.</td>
</tr>
<tr>
<td>Inspection Type</td>
<td>Method used to conduct the inspection</td>
<td>Field Operations</td>
<td>Engineering</td>
<td>The inspection frequency is governed by the agency’s level of need to evaluate the condition of the sewer system. This is likely to be an engineering decision.</td>
</tr>
<tr>
<td>Condition Scoring</td>
<td>Assessment of condition</td>
<td>Engineering</td>
<td></td>
<td>The inspection type is largely governed by the type and size of the structure being inspected. Manholes will have a different type of inspection than pipe, and small pipe will have a different type of inspection than large pipe.</td>
</tr>
</tbody>
</table>

There is a distinction between who is responsible for the ratings and those who collect the data that supports the ratings. It is highly likely that field operations will collect most - if not all - of the data, but the analysis and ratings assignment would be divided.
<table>
<thead>
<tr>
<th>Area of Responsibility</th>
<th>Description</th>
<th>Primary Responsibility</th>
<th>Secondary Responsibility</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Field operations is primarily responsible for debris, grease, roots, odor, and vermin ratings.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>Scheduled maintenance of the system</td>
<td>Field Operations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work Orders</td>
<td>System maintenance and repair</td>
<td>Field Operations</td>
<td></td>
<td>Primarily field operations, but work orders for contract work - especially large, capital-intensive jobs like rehab/replacement - can originate from engineering.</td>
</tr>
</tbody>
</table>
Step 8: Number the Manholes In Your System If They Are Not Yet Numbered

NOTE: The process of numbering the manholes automatically creates the main line ID numbers because, in OASIS, the main line ID's are made up of the two adjoining manhole numbers with a plus (+) sign in the middle, e.g., “501+502” is the main line defined by manholes 501 and 502.

1 Number all the manholes in the sewer system using your collection system maps.

   • If the maps are incomplete, hand draw the system onto the map(s) to the best of your knowledge and number the manholes that you know of. Skip the rest. They’ll fill in later, over time.
   • If there are no maps, you’re in big trouble. You will need to determine the flow direction of the main lines - usually by doing a field inspection - and then creating a map, either hand-drawn or on a computer. In rare instances, the flow direction of the main lines exists on paper records without having been recorded on a map. You can proceed using this type of record, but a map is much better.

2 Use a simple numbering system, the shorter the number, the better.

Important! In all cases, be sure to put leading zeros into the ID numbers so they will sort correctly!

HINT: Here’s a numbering suggestion that’s useful if you’ve organized your sewer maps into numbered pages:

   Create manhole numbers that include the map page number where the manhole appears - it helps the field crews.

   For example, have all the mh’s that appear on field map page 9 begins with the prefix “09-”. Then complete the ID with a unique number. For example, the final ID number for the 72nd manhole on the 9th page would look like this: “09-072”

Tech Tip: A unique ID number is all that’s required by OASIS to store any structure record. The ID number can be up to 32 characters in length, alpha and/or numeric, although lengthy numbers are not recommended. (See below.)

NOTE: Don’t create elaborate numbering schemes, especially the schemes that attempt to identify manhole sequencing, flow direction, pipe branching, etc., all in one number.

There’s three reasons not to do this:

   • The length of the manhole numbers in sequential numbering systems can become unbelievably long and unwieldy. When trying to communicate long numbers there can easily be mistakes, especially when sent out over a radio to a field crew. Long numbers are also more subject to data-entry errors because of their size.
   • Elaborate schemes that attempt to show system flow are uselessly duplicating information that hydraulic modeling software does automatically and with much greater precision. When modeling software goes to work, it analyzes which manholes
are connected to each other, and then creates a network flow pattern mathematically. There is no need to do this in OASIS, which is a static database manager, not a modeler.

- Sequential numbering schemes inevitably fail because of changes to the collection system usually caused by the insertion of manholes into the system to handle additions or rerouting.
Step 9: Build the manhole and main line records

This is easier than it seems because OASIS allows you to build manhole records and main line records at the same time.

The main question is: Which manholes and main lines should you enter first?

Answer: Consider using this order of priority:

1st priority: Known problem children. Enter as much as you can about those structures where you have a known history of operational problems (backups, flooding, etc.) because you will want to enter preventive maintenance (pm) schedules for these first.

2nd priority: Structures identified on complaint work orders. Although complaint work orders are almost always dispatched by street address, the involved sewer structures can be identified by the service crew (using a map) while they are at the jobsite. That identification can be recorded on the complaint work order and later used to create a structure record(s) in OASIS.

Structures identified through complaint work orders are often candidates for preventive maintenance scheduling and/or follow-up action using scheduled work orders, which require a structure record to be in the database before preparing the work order. (For more details, see "Use OASIS for scheduled work orders" on page 2-20.)

3rd priority: All the rest, as time permits. The balance of the database will fill in, as you have the resources to do so. However, it is important to not just ignore the balance until it falls into one of the other two categories above, principally because you will never get an accurate picture of the total collection system until all the records are entered.

Without a complete inventory, it is impossible to analyze the health of the system and do accurate forecasting of rehabilitation/replacement because such forecasting is dependent on age information, material types, and condition assessment information derived from inspection records.

1 To continue with this step:

See "Create a Manhole Record" on page 4-27 for specific instructions.

See "Create a Main Line Record" on page 4-22 for specific instructions.

2 With some or all of the manhole/main line data entered into OASIS, it is time to use specific commands to manage the structure records. This topic is covered in Chapter 3, “OASIS Operating Guide”.

See "Basic Structure Record Management" on page 3-4 for specific instructions.
Step 10: Build records of service laterals, catchbasin/stormdrains, and septic tanks

If you have responsibility for any of these three structure types, use the marked-up forms to begin building structure records, using the same priority order outlined above for manholes and main lines.

For service lateral maintenance and/or repair, start by building records of the known problem locations, typically service laterals that need to be on a frequent preventive maintenance schedule such as restaurants and other commercial areas.

For catchbasin/stormdrain maintenance and/or repair, start by building records of the known problem locations, typically drains that are in low-lying sump areas that cannot drain by overland flow if the drain is blocked by debris, etc. Drains in this type of location need to be frequently maintained.

Other typical cb/sd candidates for early data-entry are drains that are known to fill up quickly with debris such as sand or dirt and also need to be on a frequent pm schedule.

For septic tanks, follow the same guiding principle of first building records of the tanks that need the highest frequency maintenance.

1 To continue with this step:

   See "Create a Service Lateral Record" on page 4-37 for specific instructions.

   See "Create a Catchbasin/Stormdrain Record" on page 4-7 for specific instructions.

2 With some or all of the service lateral and/or catchbasin/stormdrain and/or septic tank data entered into OASIS, it is time to use specific commands to manage the structure records. This topic is covered in Chapter 3, “OASIS Operating Guide”.

   See "Basic Structure Record Management" on page 3-4 for specific instructions.
Step 11: Set up a Preventive Maintenance Schedule

It stands to reason that you should take advantage of the fact that many sewer structures need little if any preventive maintenance. For instance, main lines that are well constructed and have good slope may not require preventive maintenance for the entire life of the sewer, just periodic inspection (discussed below in the next step).

However, virtually every wastewater collection system has structures that require constant and diligent preventive maintenance. The previous steps in this guide have made reference to this fact and you should establish a preventive maintenance schedule right away for your problem areas.

NOTE: If you already have an organized preventive maintenance program, you will find it relatively easy to transfer it to OASIS. OASIS accommodates all the critical information found in preventive maintenance records such as “Date Last Done”, “Date Next Due”, the type of pm activity, etc.

1 Review and modify (if necessary) the two lookup tables that are important to pm schedules. If you have already set up OASIS to do complaint and emergency work orders (as described earlier in Step 5), then you are already familiar with customizing the lookup tables. This makes the task of setting up preventive maintenance easier because the lookup tables used for work orders are the same ones used for pm records.

These are the two tables used for pm scheduling:

- **Action codes**, such as “CJET” for “cleaning with hydrojet” or “CVAC” for cleaning with vac truck
- **Crew assignment codes**, by type of work, such as “Cleaning Crew” or “Inspection Crew”

They contain default values that can be used with no modification. However, the action codes used for preventive maintenance are largely different than those used for work orders, so a review of the codes may be in order. Follow the method used in Step 5 to do a review.

See "Customize the OASIS Lookup Tables" on page 4-48 for specific instructions.

2 Assemble a list of all the structures that need pm scheduling.

NOTE: If the records are already in the OASIS database, you can print a simple report of all the manholes, main lines, etc. and mark the ones that need scheduling.

(For further instructions on this topic, turn to the "Reports Guide" on page 5-1.)

However you go about assembling the list, take time to note the following items for each structure on the list:

- The type of preventive maintenance required for the structure.
- The date when the pm was last done.
- The interval (from 1 day to 20 years) between pm’s
- The crew that is assigned to do the pm (optional)

**IMPORTANT:** Each structure can have more than one pm! For example, a main line may require a pm for cleaning every 6 months and root control every 3 years.
3 Enter the pm data into the database. In general, you call up the record of each structure and create one or more pm’s, as required. OASIS automatically calculates when each pm is next due.

See "Schedule Preventive Maintenance" on page 4-82 for specific instructions.

4 With some or all of the pm data entered into OASIS, it is time to start running a pm program. This topic is covered in Chapter 3, “OASIS Operating Guide”.

See "Basic Preventive Maintenance Management" on page 3-7 for specific instructions.
Step 12: Set up an Inspection Schedule

Setting up an inspection schedule is remarkably similar to setting up preventive maintenance. There are fewer customization requirements, but the principle is the same.

**NOTE:** If you already have an organized inspection program, you will find it relatively easy to transfer it to OASIS. OASIS accommodates all the critical information found in inspection records such as “Date Last Done”, “Date Next Due”, the type of inspection, etc.

However, unlike pm’s, you cannot choose to omit structures from an inspection schedule because all structures must be regularly inspected. For example, a main line may be self-cleaning and not require a cleaning pm, but that same main line will never be self-inspecting (!)

The core question about inspection schedules is: How often should a structure be inspected?

There are many different opinions about this, but if you don’t already have a firm idea, you may want to consider using the following protocol which is often heard in the industry:

- Inspect every manhole once per year.
  - Manhole conditions leave clues about trouble with main lines. For example, surcharging marks in a manhole should prompt you to look at blockage or capacity problems in the main line.

- Inspect every main line that is younger than 50 years old once every 10 years.
- Inspect every main line that is more than 50 years old once every 5 years.
- Any main line that is subject to severe conditions such as aggravated hydrogen sulfide corrosion or sand abrasion should be inspected more frequently.
- Each main line that has a scheduled pm due to chronic operational problems (backups, flooding, etc.) should be inspected more frequently, perhaps as frequently as the pm, depending on what condition or problem is driving the need for the pm.

1. Lookup table modification is not required before setting up inspection schedules. All the commonly used types of inspections have been built into the inspection scheduling form.

2. Assemble a list of all the structures in your collection system. (Since all structures need regular inspection, you need a complete list.)

   **NOTE:** If the records are already in the OASIS database, you can print a simple report of all the manholes, main lines, etc.

   (For further instructions on this topic, turn to the "**Reports Guide**" on page 5-1.)

Whatever method you use to assemble the list, take time to note the following items for each structure:

- The type of inspection required for the structure.
  - The list of inspection types can be found in the “Inspection Type” field on the “Inspection” tab of each structure form. For your convenience, the inspection types (and codes) are also listed here:
    - **IAG** - Inspection from above-ground
ICR - Inspection by crawling crew
ILA - Inspection by lamping method
IOT - Inspection by “other” method
IRO - Inspection by remote operated device/robot
ISO - Inspection by sonar device
ITV - Inspection by tv
IWK - Inspection by walking crew

• The interval (from 1 day to 20 years) between inspections
• The date when an inspection was last done.
• The crew that is assigned to do the inspection (optional)

IMPORTANT: Each structure can have only one scheduled inspection interval, as shown on the “Inspection” tab of each structure form. If you have some reason to schedule more than one inspection interval, then set up the additional inspections as preventive maintenance events.

For example, suppose you do two types of inspections on a main line: Every year you do a cursory inspection using a mirror or hand-held camera while standing outside the manhole, and every five years you do a complete interior inspection with traditional tv equipment.

You should schedule the five-year inspection as the principal inspection and the mirror/hand-held camera as a preventive maintenance event.

NOTE: There is a body of opinion in the industry that says all inspections should be set up as part of an agency’s preventive maintenance program. OASIS follows the philosophy of separating the two because inspections require the collection of data while pm’s do not, except for the “Date Done”.

3 Enter the inspection data into the database. In general, you call up the record of each structure and create the inspection record. OASIS automatically calculates when each inspection is next due.

See "Schedule Inspections" on page 4-80 for specific instructions.

4 With some or all of the inspection data entered into OASIS, it is time to start running an inspection program. This topic is covered in Chapter 3, “OASIS Operating Guide”

See "Basic Inspection Management" on page 3-12 for specific instructions.
Step 13: Use OASIS for scheduled work orders

In step 5, you set up OASIS to handle complaint and emergency work orders. Complaint work orders are usually dispatched by street address, so that type of work order does not require advance knowledge of exactly what sewer structure(s) is involved in the problem.

There comes a time, however, when you need to prepare scheduled work orders for action on specific sewer structures. For example, when a service crew reports a collapsed section of pipe, you will need to schedule a repair crew to do a rehab or replacement.

The service crew’s description of the job location must include the ID number of the pipe so you can recall the record of the pipe from the database and prepare a work order that is specific to that section of pipe.

**NOTE:** Sometimes, especially when you’re just getting started with entering structure records into OASIS, it is possible that a service crew could report the ID of a structure that has not yet been entered into the database.

For example, if a service crew finds a problem with a structure that appears on your map page 9 and you’ve only entered records up to page 6, there won’t be a record of the problem structure in your database. The only answer is to immediately create the structure’s record on-the-fly (an ID number is all that’s required to establish a structure record!) and then create the scheduled work order.

1. Determine the ID number of the structure you intend to work on, e.g., manhole #505 or mainline # 501+502.

2. Prepare the work order the same way you have prepared complaint work orders, although there will be more specific information/instructions on a scheduled work order.

3. To continue with this step:

   See "Create a Scheduled Work Order" on page 4-30 for specific instructions.
Step 14: Use the Report Catalog

Many of the preceding steps make reference to running reports that are useful to those tasks. The built-in OASIS report manager, called the “Report Catalog”, contains hundreds of pre-constructed reports that you can use “as-is”, or you can set report parameters to limit, sort, group, and summarize specific data you are interested in.

The specifics of using the Catalog are described in Chapter 5, “Reports Guide”, and won’t be duplicated here. However, the important thing to remember about this step is to **start running reports early and often**. Reports are a very good way to detect data-entry errors, and are also the only accurate devices for measuring progress in building your database.

Reports are likely to be the only output from OASIS that is reviewed by high-level governmental managers such as agency supervisors and managers, consultants, elected representatives, and regulatory officials. This is good reason for you to be reasonably skilled in using the Report Catalog early on in the process...
Organization of this guide

This guide is designed to provide instructions for making OASIS work on a day-to-day basis, usually an agency employee(s) or consultant/contractor.

There are some important distinctions to remember, though.

- Using OASIS on an everyday basis is, of course, different than setting up OASIS.
  
  *Using OASIS is covered in this guide. The guide is divided into broad areas by operating function such as “Work Orders”, “Preventive Maintenance”, etc.*

  *Setting up the OASIS initial configuration and beginning data-entry is covered in Chapter 2, “OASIS Project Guide”.

- This guide covers basic approaches to using OASIS. The procedures are designed to get your OASIS-based collection system management program going as quickly as possible.

Before you begin

- You should be familiar and comfortable with the Windows operating system including mouse usage.
Basic Work Order Management

Step 1: Creating Work Orders

If you followed all the steps in Chapter 2, “OASIS Project Guide”, at this point you should be able to:

- Handle both types of OASIS work orders: complaint/emergency work orders and scheduled work orders.
- Create complaint work orders, as described on page 4-12.
- Create scheduled work orders, as described on page 4-30.

Step 2: Managing Work Orders

Once you start creating work orders, you will soon find yourself ready to use the tools included in OASIS for managing them.

<table>
<thead>
<tr>
<th>Action</th>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>To locate a work order in the database by its ID number</td>
<td>See &quot;Find a Work Order Record&quot; on page 4-73.</td>
</tr>
</tbody>
</table>
| To locate a work order in the database by any or all of the following fields:  
  - Date started  
  - Date done  
  - Work order status (open or done)  
  - Problem reported  
  - Action taken  
  - Structure group (manholes, main lines, service laterals, catchbasin/stormdrain, septic tank)  
  - Structure type  
  - Your internal work order number (if you use internal control numbers)  
  - City  
  - ZIP or postal code  
  - Drainage district  
  - Neighborhood  
  - Street name  
  - Cross-street name  
  - Address number | See "Search Work Order Records" on page 4-95. |
### Step 3: Work Order Reports

There is a series of reports designed to support work order management, listed here by category:

- **Work Orders:** [Basic Info](#)
- **Work Orders:** [Problem List](#)
- **Work Orders:** [Production Diary](#)

For further instructions on this topic, turn to the "Reports Guide" on page 5-1.

<table>
<thead>
<tr>
<th>Action</th>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>To select work orders that match criteria you choose from any field in the work order form</td>
<td>See &quot;Filter Records&quot; on page 4-66.</td>
</tr>
<tr>
<td></td>
<td>You might be wondering why you wouldn’t use “Filter Records” all the time to locate records and ignore the “Search Work Orders” command?</td>
</tr>
<tr>
<td></td>
<td>The answer is that the “Search for a Work Order Record” command was especially designed for OASIS and allows you to set all your criteria on one screen and then see a compact summary of the records selected.</td>
</tr>
<tr>
<td>To find (or find and replace) a specific term or set of words in one or more fields in a form</td>
<td>See &quot;Find and Replace Data&quot; on page 4-68.</td>
</tr>
<tr>
<td>To keep track of your work order customers by name, phone number, etc.</td>
<td>See &quot;Create a Work Order Customer Diary&quot; on page 4-42.</td>
</tr>
<tr>
<td>To delete a work order record from the database</td>
<td>See &quot;Delete Records&quot; on page 4-58.</td>
</tr>
<tr>
<td>To see all the work order records arranged in a spreadsheet-style view</td>
<td>See &quot;Show Records in Datasheet View&quot; on page 4-115.</td>
</tr>
<tr>
<td>To print a work order</td>
<td>See &quot;Print Records and Reports&quot; on page 4-79.</td>
</tr>
</tbody>
</table>
Basic Structure Record Management

Step 1: Creating Structure Records

If you followed all the steps in Chapter 2, “OASIS Project Guide”, at this point you should be able to:

- Create manhole records, as described on page 4-27.
- Create main line records, as described on page 4-22.

In addition, if you have responsibility for other kinds of structures, you should be able to:

- Create service lateral records, as described on page 4-37.
- Create catchbasin/stormdrain records, as described on page 4-2.
- Create septic tank records, as described on page 4-12.

There are also other ways to create and use structure records:

- Duplicating Records
  Database records are often similar from one to the next. For example, a manhole may be the same size, material type, and have the same installation date for blocks on end with the only changes being the location of the manhole (addressing).

To make the process of entering structure records easier and more uniform, OASIS has a “Duplicate” command that allows the user (with some exceptions) to copy the contents of the current record to a new record. All you have to do is change the ID number (mandatory) and any other information that is specific to the structure.

See "Duplicate a Record" on page 4-59 for specific instructions.
Step 2: Managing Structure Records

Once you start creating structure records, you will soon find yourself ready to use the tools included in OASIS for managing them.

<table>
<thead>
<tr>
<th>Action</th>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>To locate a structure in the database by its ID number</td>
<td>See &quot;Find a Structure Record&quot; on page 4-71.</td>
</tr>
<tr>
<td>To locate a structure in the database by any or all of the following fields:</td>
<td>See &quot;Search Structure Records&quot; on page 4-99.</td>
</tr>
<tr>
<td>- Structure group (manholes, main lines, service laterals, catchbasin/stormdrain, septic tank)</td>
<td></td>
</tr>
<tr>
<td>- Structure type</td>
<td></td>
</tr>
<tr>
<td>- City</td>
<td></td>
</tr>
<tr>
<td>- ZIP or postal code</td>
<td></td>
</tr>
<tr>
<td>- Drainage district</td>
<td></td>
</tr>
<tr>
<td>- Neighborhood</td>
<td></td>
</tr>
<tr>
<td>- Street name</td>
<td></td>
</tr>
<tr>
<td>- Cross-street name</td>
<td></td>
</tr>
<tr>
<td>- Address number</td>
<td></td>
</tr>
<tr>
<td>To select structures that match criteria you choose from any field in the structure form</td>
<td>See &quot;Filter Records&quot; on page 4-66.</td>
</tr>
<tr>
<td>You might be wondering why you wouldn’t use “Filter Records” all the time to locate records and ignore the “Search Structure Records” command?</td>
<td>The answer is that the “Search Structure Records” command was especially designed for OASIS and allows you to set all your criteria on one screen and then see a compact summary of the records selected.</td>
</tr>
<tr>
<td>To find (or find and replace) a specific term or set of words in one or more fields in a form</td>
<td>See &quot;Find and Replace Data&quot; on page 4-68.</td>
</tr>
<tr>
<td>To see a schematic drawing of a main line</td>
<td>See &quot;View a Schematic Drawing of a Main Line&quot; on page 4-128.</td>
</tr>
<tr>
<td>To delete a structure record from the database</td>
<td>See &quot;Delete Records&quot; on page 4-58.</td>
</tr>
<tr>
<td>To see all the structure records arranged in a spreadsheet-style view</td>
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<tr>
<td>To print a work order</td>
<td>See &quot;Print Records and Reports&quot; on page 4-79.</td>
</tr>
</tbody>
</table>
Step 3: Structure Reports

There is a series of reports designed to support structure management, listed here by category:

- Basic Manhole Reports
- Basic Main Line Reports
- Basic Service Lateral Reports
- Basic Catchbasin/Stormdrain Reports
- Basic Septic Tank Reports

**System-wide Reports** (Covers all of the above, reported in groups.)

For further instructions on this topic, turn to the "Reports Guide" on page 5-1.
Basic Preventive Maintenance Management

Step 1: Create PM Schedule Records

The structures that need scheduled preventive maintenance must have a record entered into OASIS for each type of pm. (Structures can have multiple pm’s.)

In Chapter 2, “OASIS Project Guide” on page 2-16, there is an extended discussion of how to set up a pm schedule, with specific instructions on entering pm data to be found as described on page 4-82 in Chapter 4, “Cookbook”.

Step 2: Dispatching Crews

Once the pm schedule data is in the database, you need to be able to dispatch crews to perform the work.

You can either create a list of the pm’s to be done or you can create individual pm work orders for the crew(s) to use.

Figure 3-1. Example of PM List
The advantages of using a list are:

- Information is condensed and you can show more than one pm on one piece of paper.
- After the work is done, OASIS will (if you wish) automatically - and silently - create a completed work order confirming that the pm was done, and make it a part of the pm history profile.

The disadvantage of using a list is:

- There is no place to enter any inspection information that a crew might be able to gather when they doing the pm.

The advantages of using individual work orders are:

- Each work order contains more background data about the structure/location/situation than a list does.
- Individual work orders are designed to capture informal inspection information gathered by the crew.

The disadvantage of using individual work orders is:

- Lots and lots of paper - that can get lost or misplaced.

Whichever you method you decide on, both choices begin at the same place:

See "Search Preventive Maintenance Schedules" on page 4-91 for specific instructions.

1 After receiving the list or individual work orders, the crew goes to the location(s) and does the pm(s). When the work is completed, there is space on the work order (or list, though cramped) for the crew to fill in information to be update such as the date the pm was done, pm notes, etc.

2 While the crew is at the jobsite, it would be a good policy for them to do a quick inspection of the structure, which is especially easy if it is a manhole or catchbasin/stormdrain.

If the crew is using a pm list, they will need to have a separate (agency-furnished) form to capture inspection data. For manholes and non-pipe structures, there are widely available inspection forms - most agencies already have one. For pipes, it is more difficult to do a quick inspection, but technology is available to do fast inspections of the first 30-50 feet of pipe through a manhole while standing above ground.

If the crew is using individual work orders, they can make use of the rating scales that are pre-printed in the “Notes” section of every pm work order. All that’s required is to rate each of the observations by circling a number from 1 to 3 in the ratings scales.
NOTE: If the pm is for a manhole or catchbasin/stormdrain, then the ratings scale is just for the mh or cd/sd. If the pm is for a main line, the ratings scale covers the pipe and both manholes.

- The ratings on the scales correspond to the ratings on the “Inspection” and “Condition” tabs in the structure form.

- The scales are ideal for manhole and catchbasin/stormdrain evaluation, but a scale for main lines is included as well, for completeness.

- It is tempting to use the rating scales on the pm work orders as a substitute for a regular inspection program, but that should not guide your thinking.

As previously discussed, as described on page 2-18 in Chapter 2, “OASIS Project Guide”, your inspection program should include a scheduled inspection of ALL structures, not just those that are subject to preventive maintenance. The rating scales on the pm reports should be used as supplemental information to keep your system condition profile as up to date as possible.

3 When the list or work order(s) is done, it is returned to the office for data-entry of the updated information such as when the work order was done, how much work was accomplished, etc.

4 If the crew used a list, recreate the list using the criteria printed on the list, and enter the updates. Inspection data can also be entered.

See "Update Inspection Records From an Inspection List" on page 4-122 for specific instructions.

5 If the crew used work orders, find each work order in the database and enter the work order updates.

See "Find a Work Order Record" on page 4-73 for specific instructions.

If inspection information was gathered at the same time, click on the “Visit” button at the top right-hand corner of the work order form. OASIS will jump to the structure record where you can enter inspection information on the “Inspection” and “Condition” tabs. You can also click the “Inspection Details” button at the bottom of the structure form to enter defect information.

When finished entering inspection data for a structure, click the “Exit” button at the bottom of the structure form to return to finding work orders.
Step 3: Managing PM Records

Once you start creating pm records, you will soon find yourself ready to use the tools included in OASIS for managing them.

<table>
<thead>
<tr>
<th>Action</th>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>To locate a pm record in the database you must know the ID number of the</td>
<td>See &quot;Find a Structure Record&quot; on page 4-71.</td>
</tr>
<tr>
<td>structure it belongs to because pm records are not individually</td>
<td></td>
</tr>
<tr>
<td>numbered. They are always associated with a structure record which you</td>
<td></td>
</tr>
<tr>
<td>can locate by ID number.</td>
<td></td>
</tr>
<tr>
<td>To locate a pm in the database by any or all of the following fields:</td>
<td>See &quot;Search Preventive Maintenance Schedules&quot; on page 4-91.</td>
</tr>
<tr>
<td>- Next Due Date</td>
<td></td>
</tr>
<tr>
<td>- PM type</td>
<td></td>
</tr>
<tr>
<td>- Structure group (manholes, main lines, service laterals, catchbasin/</td>
<td></td>
</tr>
<tr>
<td>stormdrain, septic tank)</td>
<td></td>
</tr>
<tr>
<td>- Structure type</td>
<td></td>
</tr>
<tr>
<td>- City</td>
<td></td>
</tr>
<tr>
<td>- ZIP or postal code</td>
<td></td>
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<tr>
<td>- Drainage district</td>
<td></td>
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<tr>
<td>- Neighborhood</td>
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<tr>
<td>- Street name</td>
<td></td>
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<tr>
<td>- Cross-street name</td>
<td></td>
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<tr>
<td>- Address number</td>
<td></td>
</tr>
<tr>
<td>- PM’s with or without corresponding work orders</td>
<td></td>
</tr>
<tr>
<td>To select pm’s that match criteria you choose from any field in the pm</td>
<td>See &quot;Filter Records&quot; on page 4-66.</td>
</tr>
<tr>
<td>form</td>
<td></td>
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<tr>
<td>You might be wondering why you wouldn’t use “Filter Records” all</td>
<td></td>
</tr>
<tr>
<td>the time to locate records and ignore the “Search Preventive</td>
<td></td>
</tr>
<tr>
<td>Maintenance Schedules” command?</td>
<td></td>
</tr>
<tr>
<td>The answer is that the “Search Preventive Maintenance Schedules”</td>
<td></td>
</tr>
<tr>
<td>command was especially designed for OASIS and allows you to set all</td>
<td></td>
</tr>
<tr>
<td>your criteria on one screen and then see a compact summary of the</td>
<td></td>
</tr>
<tr>
<td>records selected.</td>
<td></td>
</tr>
<tr>
<td>To find (or find and replace) a specific term or set of words in one</td>
<td>See &quot;Find and Replace Data&quot; on page 4-68.</td>
</tr>
<tr>
<td>or more fields in a form</td>
<td></td>
</tr>
</tbody>
</table>
Step 4: PM Reports

There is a series of reports designed to support pm management, listed here by category:

**Preventive Maintenance Schedule**
**Preventive Maintenance Done**
**Preventive Maintenance Schedule - sequenced**
**Preventive Maintenance Done - sequenced**

For further instructions on this topic, turn to the "Reports Guide" on page 5-1.

<table>
<thead>
<tr>
<th>Action</th>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>To delete a pm record from the database</td>
<td>See &quot;Delete Records&quot; on page 4-58.</td>
</tr>
<tr>
<td>To print a pm record</td>
<td>See &quot;Print Records and Reports&quot; on page 4-79.</td>
</tr>
</tbody>
</table>
Basic Inspection Management

NOTE: If some of what you read below looks familiar, it’s because running an inspection program is very similar to running a preventive maintenance program, but with the addition of condition assessment ratings.

Step 1: Create Inspection Schedule Records

The structures that need a scheduled inspection must have a record entered into OASIS indicating the frequency and type of inspection. As a matter of good operating procedure, all the structures in your collection system should be scheduled for periodic inspection.

• In Chapter 2, “OASIS Project Guide” on page 2-18, there is an extended discussion of how to set up an inspection schedule. See "Schedule Inspections” on page 4-80 in the “Cookbook” for specific instructions.

There are also other ways to create and use inspection records:

• You can import inspection records from a laptop (or other computer) used in a TV inspection truck. This will allow you to enter inspection data just once, in the field, and it can be uploaded automatically into the main database at the office.

  NOTE: You must have at least 2 OASIS end-user licenses (one for the office computer and one for the laptop) in order to use this feature.

Step 2: Dispatching Crews

Once the inspection schedule data is in the database, you need to be able to dispatch crews to perform the work.

You can either create a list of the inspections to be done or you can create individual inspection work orders for the crew(s) to use.

The advantages of using a list are:

• Information is condensed and you can show more than one inspection on one piece of paper.
• After the work is done, OASIS will (if you wish) automatically - and silently - create a completed work order confirming that the inspection was done, and make it a part of the inspection history profile.

However, you must have a separate form (provided by you) to record the inspection ratings, defects, etc.

The advantages of using individual work orders are:

• Each work order contains more background data about the structure/location/situation than a list does.
Individual work orders are also designed to capture some (but not necessarily all) of the inspection information gathered by the crew. (A separate form (provided by you) may also be needed to complete an inspection, but it depends on how much inspection information you require.)

Whichever you decide, both choices begin at the same place:

See "Search Inspection Schedules" on page 4-87 for specific instructions.

1 After receiving the list or individual work orders, the crew goes to the location(s) and does the inspection(s). When it is completed, there is space on the work order (or list, though cramped) for the crew to fill in information to be update such as the date the inspection was done, inspection notes, etc.

2 If the crew is using an inspection list, they will need to enter all the inspection data - including condition ratings - on a separate form(s) because the list is simply too crowded to capture any meaningful data.

For manholes and non-pipe structures, there are widely available inspection forms - most agencies already have one. Manhole forms can contain both condition ratings and specific defect data.

NOTE: Agency forms for inspecting these structures vary widely in design. The better ones have a method of quantifying defects so that appropriate work orders can be generated later to repair the problems.

For pipes, a TV log is the most common inspection form and condition ratings are usually recorded on a separate form.

If the crew is using individual work orders, they can make use of the condition rating scales that are pre-printed in the “Notes” section of every inspection work order. All that’s required is to rate each of the observations by circling a number from 1 to 3 in the ratings scales.

Separate forms, such as a TV log, will still be needed to record specific defects.

NOTE: - If the inspection is for a manhole or catchbasin/stormdrain, then the ratings scale is just for the mh or cd/sd. If the inspection is for a main line, the ratings scale covers the pipe and both manholes.
   - The ratings on the scales correspond to the ratings on the “Inspection” and “Condition” tabs in the structure form.
   - The scales are ideal for manhole and catchbasin/stormdrain evaluation, but a scale for main lines is included as well, for completeness.

3 When the list or work order(s) is done, it is returned to the office for data-entry of the updated information such as when the work order was done, how much work was accomplished, etc.

4 If the crew used a list, recreate the list using the criteria printed on the list, and enter the updates. Inspection data can also be entered.
See "Update Inspection Records From an Inspection List" on page 4-122 for specific instructions.

5 If the crew used work orders, find each work order in the database and enter the work order updates.

See "Find a Work Order Record" on page 4-73 for specific instructions.

To record the inspection information, click on the “Visit” button at the top right-hand corner of the work order form. OASIS will jump to the structure record where you can enter inspection information on the “Inspection” and “Condition” tabs. You can also click the “Inspection Details” button at the bottom of the structure form to enter defect information.

When finished entering inspection data for a structure, click the “Exit” button at the bottom of the structure form to return to finding work orders.

Step 3: Managing Inspection Records

Once you start creating inspection records, you will soon find yourself ready to use the tools included in OASIS for managing them.

<table>
<thead>
<tr>
<th>Action</th>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>To locate an inspection record in the database you must know the ID number of the structure it belongs to because inspection records are not individually numbered. They are always associated with a structure record which you can locate by ID number.</td>
<td>See &quot;Find a Structure Record&quot; on page 4-71.</td>
</tr>
</tbody>
</table>
### Step 4: Entering Condition Assessment Ratings

One of the most valuable products of using OASIS is the creation of condition assessment scores that you can use as the basis for creating CMOM and GASB 34 reports.

OASIS uses a very simple scoring scale, 1 through 3, with 1 being the worst and 3 being the best. (There is also a “4” score, but that is used to indicate that no rating has been given to the structure.)

---

<table>
<thead>
<tr>
<th>Action</th>
<th>Tool</th>
</tr>
</thead>
</table>
| To locate an inspection in the database by any or all of the following fields:  
- Next Due Date  
- Inspection type  
- Structure group (manholes, main lines, service laterals, catchbasin/stormdrain, septic tank)  
- Structure type  
- City  
- ZIP or postal code  
- Drainage district  
- Neighborhood  
- Street name  
- Cross-street name  
- Address number  
- Inspections with or without corresponding work orders | See "Search Inspection Schedules" on page 4-87. |
| To select inspections that match criteria you choose from any field in the pm form | See "Filter Records" on page 4-66. |
| You might be wondering why you wouldn’t use “Filter Records” all the time to locate records and ignore the “Search Inspection Schedules” command? | The answer is that the “Search Inspection Schedules” command was especially designed for OASIS and allows you to set all your criteria on one screen and then see a compact summary of the records selected. |
| To find (or find and replace) a specific term or set of words in one or more fields in a form | See "Find and Replace Data" on page 4-68. |
| To delete an inspection record from the database | See "Delete Records" on page 4-58. |
| To print an inspection record | See "Print Records and Reports" on page 4-79. |
The reason for the very simplified scale is to make the ratings more reliable and to make the presentation of condition assessment values in the political environment more understandable. In other words, when the time comes to ask for funding to support rehab and replacement, elected officials and the voters are likely to ask these three questions:

1) “What needs to be fixed NOW?”
2) “What’s damaged but can wait until next year (or five years from now)?”
3) “What’s in good/acceptable shape”?

OASIS matches the answers to those questions with the 1 to 3 scale.

- To enter/edit condition assessment data, see "Enter Condition Assessment Ratings" on page 4-63 in the “Cookbook”.

Step 5: Inspection and Condition Assessment Reports

There is a series of reports in the Report Catalog designed to support inspection management and assessment, listed here by category:

- Inspection Schedule
- Inspections Done

The structural condition assessment and maintenance reports are listed under each structure grouping:

- Basic Manhole Reports
- Basic Main Line Reports
- Basic Service Lateral Reports
- Basic Catchbasin/Stormdrain Reports
- Basic Septic Tank Reports

For further instructions on this topic, turn to the "Reports Guide" on page 5-1.
Overview of Advanced Techniques

This portion of the guide is designed to provide advanced instructions for making OASIS work on a day-to-day basis.

There are some important distinctions to remember:

- Advanced approaches to using OASIS are designed to help you handle large amounts of data, speed up procedures, and use shortcuts.
  
  Using advanced procedures is recommended when:
  
  - the database has grown in size and complexity
  - your preventive maintenance, inspection, and work order programs have expanded in scope and coverage

- Don’t attempt to use the procedures described in this guide until you have learned and used the basic methods and techniques.
  
  If you jump into advanced usage without a foundation in the basics, you may find yourself quickly floundering. However, if you take the time (and enjoyment - really!) to start with the basics, many of the advanced features described below will quickly make sense.
Advanced Preventive Maintenance Management

Using PM Reports

The "Basic PM Management" section described two methods of dispatching pm’s: by using a list or by using individual work orders. Using these basic methods of dispatching pm field crews is recommended when the number of pm’s in the database is small. This might be true because you operate a small collection system or because you operate a larger collection system but haven’t had time to schedule and optimize all the pm’s.

However, if/when the your pm schedule becomes larger and/or more complex, you should switch over to the advanced method of using pm reports. (Yes, Virginia, believe it or not, there are three ways to handle pm’s in OASIS!)

PM reports are advanced versions of the list method of dispatching pm’s. (See "Dispatching Crews" on page 3-7. ) As noted in that section, the disadvantage of using the list method is that there is no place on a list to enter inspection data (that could be gathered by a crew while doing each pm). Using PM reports solves this problem because they are designed to be used as both a dispatch sheet and as a place to notate production and inspection information.

Dispatching Crews With PM Reports

1. Print the pm report you want for a specified time period and give it to the crew to take with them in the field.

   See "Select a Report Category" on page 5-4 for specific instructions.

   NOTE: In the report category list, select "Prev Maintenance Schedule" to produce a report of future pm’s.
2 The crew goes to the location shown on the report and does the pm. When the work is completed, there is space for the crew to fill in the date the pm was done, and blank space for notes.

3 While the crew is at the location, they can (optionally) do an inspection of the structure and rate each of the observations by circling a number from 1 to 3, indicating the severity of the condition.

- The scoring scale values (1 to 3) are printed at the bottom of each page to help remind the crews how to do scoring.

- The ratings on the scales correspond to the ratings on the "Inspection" and "Condition" tabs in the structure form.

- The scales are ideal for manhole and catchbasin/stormdrain evaluation, but a scale for main lines is included as well, for completeness.

- It is tempting to use the rating scales on the pm sheets as a substitute for a regular inspection program, but that should not guide your thinking. As previously discussed, as described on page 2-18 in Chapter 2, "OASIS Project Guide", your inspection program should include a
scheduled inspection of ALL structures, not just those that are subject to preventive maintenance. The rating scales on the pm reports should be used as supplemental information to keep your system condition profile as up to date as possible.

4 Once the pm (and optional inspection) is completed, the crew moves on to the next location and the process repeats itself.

5 When the pm’s listed on the report are all done, the report is returned to the office for data-entry of the updated pm information (and optional inspection data) into OASIS.

**HINT:** If the pm report used by the crew runs into many pages, it is probably wise to have the report returned each day for data entry rather than waiting until all the jobs are done. This helps avoid data-entry overload.

**Sequencing Preventive Maintenance**

Structures that have the same pm type and frequency (e.g., main lines that have pm root cutting every three years) can be optionally put into "pm routes" for the field crews to use to guide them through the pm schedule. Each route (called a pm group) is set up with the structures listed in the exact sequence you want them serviced.

See "**Sequence and Re-sequence Preventive Maintenance**" on page 4-102 for specific instructions.

**NOTE:** There is an additional (and optional) advantage to setting up pm groups: OASIS has a feature that allows you to update the "Date Done" field for all the structures in a pm group **all at once** instead of being required to visit each individual pm record.
Chapter 4
Cookbook

Organization of this guide

The cookbook is the “How-To” guide for OASIS. In it you will find specific instructions for specific tasks. The Cookbook is not intended to provide the general instruction or overview that the various guides do. Instead, it just tells you how to accomplish a certain task that needs to get done.

The tasks are organized alphabetically according to this question: “How do I do this task?”. For example, if the question were “How do I find a structure record?”, the answer can be found alphabetically under “Find a Structure Record”.

Before you begin

- You should be familiar and comfortable with the Windows operating system including mouse usage.
- You need to know the context of the task you want to accomplish.

This may sound a little brain-dead, but your decision to do a task like deleting a manhole record should be done only after you understand the implications of doing the deletion.

The implications and ramifications of doing a task is explained in the subheading entitled “Before You Begin” that appears with each task description.
Add a Lookup Code

see "Customize the OASIS Lookup Tables" on page 4-48 in the “Cookbook”.

Add a Street Name

see "Customize the OASIS Lookup Tables" on page 4-48 in the “Cookbook”.
Browse Records

See also "Use the “Show All” command" on page 4-128.

Description:

Browsing records means looking at one record after another in the database, like turning the pages in a book.

When you browse, it’s usually because you want to just scan records at random, because browsing presents the records in the order they were entered into the database - so they’re not sorted or categorized like a report.

Browsing is not an exceptionally valuable tool when using OASIS on a day-to-day basis because the records are presented in a somewhat random order. When you are working with your database you probably won’t do too much browsing. You’re much more likely to use the “Find” and “Search” commands (see below) to locate specific records because ongoing management of sewer data usually involves editing single records.

Browsing is most useful when you want to learn about the database or to show the database to someone else (such as a visitor or as an elected official) to give them an idea about the information you are storing in OASIS.

You can browse through all the different types of records in OASIS, e.g., structure records, work order records, etc.

**NOTE:** If you want to locate a specific record - or group of records - there are other OASIS commands for that purpose: “Find” and “Search”.

- To locate a structure in the database by its ID number, see "Find a Structure Record" on page 4-71 in the “Cookbook”.
- To locate a work order in the database by its ID number, see "Find a Work Order Record" on page 4-73 in the “Cookbook”.
- To locate a structure(s) in the database using specific criteria such as location or structure type, etc., see "Search Structure Records" on page 4-99 in the “Cookbook”.
- To locate a preventive maintenance record(s) in the database using specific criteria such as location or pm type, etc., see "Search for a Preventive Maintenance Record" on page 4-98 in the “Cookbook”.
- To locate an inspection record(s) in the database using specific criteria such as location or inspection type, etc., see "Search for an Inspection Record" on page 4-98 in the “Cookbook”.
- To locate a work order customer record(s) in the database using specific criteria such as customer name or address, etc., see "Schedule Inspections" on page 4-80 in the “Cookbook".
Before You Begin

No special instructions.

Steps:

1. Open the form you want to browse by clicking the appropriate button on the Main Menu, for example, the “Manholes” button.

2. After the form opens, click the “Show All” button at the bottom of the screen.

   (The “Show All” button loads all the records from the database into memory, something that is not required when using the “Find” or “Search” commands.) See "Use the “Show All” command" on page 4-128.
3 Use the Browse buttons (also known as the “Navigation” buttons) to go forward and backward through the database. (See the illustration below for the location of the navigation buttons.)

**Figure 4-2.** Location of the “Show All” Button and the Browse buttons.

**Figure 4-3.** Browse button commands

**Tips and Tricks:** You can also browse records in what’s called “Datasheet View”, which presents the records as though they were in a spreadsheet. See "Show Records in Datasheet View" on page 4-115.
Change a Lookup Code

see "Customize the OASIS Lookup Tables" on page 4-48 in the “Cookbook”.

Change a Street Name

see "Customize the OASIS Lookup Tables" on page 4-48 in the “Cookbook”.
Create a Catchbasin/Stormdrain Record

Description

This command is used to create a new record for a structure that is identified as belonging to the catchbasin/stormdrain group within OASIS. Within the group are several different catchbasin/stormdrain types: catchbasin, stormdrain inlet, stormwater inlet, area drain, etc.

NOTE: The catchbasin/stormdrain structure types - as with all structure types in OASIS - are controlled by the Structure Type lookup table, which is customizable by the user.

See "Customize the OASIS Lookup Tables" on page 4-48.

Before You Begin

- The only required field in a structure record is a unique structure ID number (SID).
  The SID can be up to 16 characters in length. (This is true for all structures in OASIS, including manholes, main lines, service laterals, and septic tanks.)
- The instructions below are for building a cb/sd record from scratch, starting with a blank form. If you have an existing record that closely resembles the one you are about to build, you might want to use the “Duplicate” command. It saves a lot of typing.
  See "Duplicate a Record" on page 4-59.

Steps

1. Click the “Catchbasins & Stormdrains” button on the Main Menu. The catchbasin/stormdrain form will appear.

Figure 4-4. OASIS Main Menu
2 Click the “New” button at the bottom of the screen. A blank form will appear and you can fill in the fields as appropriate.

“Location” Tab Fields Worthy of Special Attention

**Address Location Fields:** Each of the OASIS structure (and work order) forms has a set of fields for identifying addresses. The fields can be used to establish a street address or an intersection address, and the fields work the same on all of the forms.

See "Enter Address and Location Information for a Structure or Work Order" on page 4-60.

**Drains To This Structure:** This field is where you store the structure ID of the manhole or main line that the cb/sd is connected to.

- If you know the structure ID number where the cb/sd drains to, just enter it into the field. OASIS will double-check your entry to see if the “Drains To” structure is already in the database. If it is not in the database, OASIS will give you an error message, and you can delete your incorrect entry.
- If you think the “Drains To” structure is in the database, but you can’t remember the ID number, you can select the SID from a list of structures already stored in your database.
1 Click the wide button labeled “Click here to choose a drainage structure”.

![Figure 4-6. Location of the “Choose a Drainage Structure” and “Visit” Buttons](image)

2 A pop-up box will appear on screen:

![Figure 4-7. “Choose a Drainage Structure” pop-up box](image)
3 In the pop-up box, click the structure group that the cb/sd drains to, and click the “Search” button. A list of structures that matches your criteria will appear in the pop-up box.

![Figure 4-8. “Choose a Drainage Structure” pop-up box, filled in](image)

- All five types of structures are listed, even though it is highly improbable that a cb/sd will drain to anything except a manhole or main line. But you never know in this business.(!)
- You can narrow down the search by including an address number and/or street name in the search.
  For example, you could click the “Manholes” box along with “Birch St.” from the list of street names, and you will be shown a list of all the manholes on Birch Street.
- You can enter the ID directly into the box labeled “SID”.

4 After you’ve found the “Drains To” structure in the list, click it and then click “Select” button, or just double-click the entry in the list. OASIS will open the structure form containing the “Drains To” structure so you can double-check your selection.

5 If the structure is correct, just click the “Exit” button in the lower right corner of the “Drains To” structure form. It will close and the SID will appear in the “Drains To This Structure” field on the cb/sd form.

**“Visit” button:** After an SID is entered into the “Drains To This Structure” field, you can use the “Visit” button to temporarily jump to the record of the structure listed in the “Drains To This Structure” field. For example, if the catchbasin/stormdrain drains to manhole #501, clicking the “Visit” button will take you to the manhole record for #501.

**“Specs” Tab Fields Worthy of Special Attention**

- Two “size” fields (Size 1 and Size 2) are provided to allow you to store the measurements of non-circular openings. (If OASIS detects a non-circular structure, it will prompt for both size fields to be filled in.)
- “Survey X” and “Survey Y” are provided to allow storage of survey/GPS location coordinates.
"Background" Tab Fields Worthy of Special Attention

- The "Age" field is calculated automatically from the "Date Built" field. If you know the year of construction/major rehab but not the date, enter January 1st of the applicable year.
- The "Warranty Currently In Force" field is automatically given a check-mark if the "Warranty Ends" date is in the future.

"Inspection" Tab

**Inspection Fields:** Each of the OASIS structure forms has a set of fields for storing inspection schedule information. The fields are uniform for all five structure groups.

See "Schedule Inspections" on page 4-80.

"Condition" Tab

**Condition Assessment Fields:** Each of the OASIS structure forms has a set of fields for storing condition assessment information. The fields are uniform for all five structure groups.

See "Enter Condition Assessment Ratings" on page 4-63.
Create a Complaint/Emergency Work Order

For a general discussion related to this topic, see "Basic Work Order Management" on page 3-2 in the “OASIS Operating Guide”.

Description

This command is used to create one of two types of work orders found in OASIS. The two types are complaint/emergency and scheduled.

Complaint work orders are distinguished from scheduled work orders because they are usually prepared using just a street address - phoned/written in by the public - with no advance knowledge of what structures are involved in the problem.

A scheduled work order is prepared when you know the ID of the structure(s) involved.

(See "Create a Scheduled Work Order" on page 4-30.)

Before You Begin

- For a complaint work order to be useful, an accurate street address is very critical because when the public calls/writes in about the problem, they will most certainly not have knowledge of your collection system structures and cannot provide you with manhole numbers. (!)
- There are no required fields in a work order. OASIS assigns an ID to each work order when it is created. (If your agency uses its own work order numbers for dispatching or because they’re on pre-printed forms, etc., there is a field on the OASIS work order form to enter your agency’s work order control number.)

Steps

There may seem to be a lot of steps to filling out a work order, but don’t panic or get discouraged. The instructions are very complete, and once you’ve done it a couple of times, it will all be very easy to remember, and pretty fast to do. You will also decide which steps might not make sense for your agency, and you can skip them for good.
1 Click the “Work Orders” button on the Main Menu. The Work Order form will appear.

![OASIS Main Menu](image1)

**Figure 4-9. OASIS Main Menu**

2 Click the “New” button at the bottom of the screen. A blank form will appear and you can fill in the fields as appropriate. (The example shown below is not blank, so you can see examples of what goes into the data fields.)

![Basic data tab on work order form](image2)

**Figure 4-10. Basic data tab on work order form**

3 Skip the **OASIS Work Order ID** field. OASIS automatically assigns an ID number.

4 Skip the **Structure ID** fields. These will be filled in later if the field crew determines what structure was involved in the job.
5 If you have an ID number from your agency’s pre-printed work order form (or some other type of internal control number), enter it into the **Agency Work Order ID** field.

6 Enter the address or location of the problem using the OASIS location fields.

OASIS forms have a uniform set of fields for identifying addresses and locations. The fields can be used to establish a street address or an intersection address. See "**Enter Address and Location Information for a Structure or Work Order**" on page 4-60.

**NOTE:** On the work order form, some of the location-related fields (ZIP, Drainage District, and Neighborhood) are on the 3rd tab of the form, labeled “Background”.

7 Select a problem description from the drop-down list in the **Problem Description** field.

8 Enter an estimated amount in the **Problem Quantity** field. On complaint work orders this is very challenging, so most users enter the default value of “1”.

9 Set a **Priority** for responding to the complaint: 1 to 3.

10 Skip the **Status** field. By default, OASIS sets the status of a new work order to “Open”.

11 Enter the name of who/what reported the problem in the **Reported By** field.

   If the situation warrants, create a customer contact diary by clicking the “Open Customer Diary” button at the bottom of the screen. See "**Create a Work Order Customer Diary**" on page 4-42 for specific instructions.

12 Use the “Today” and “Now” buttons to enter current values in the **Problem Reported Date** and **Problem Reported Time** fields. You can also change them manually as you see fit.

13 Enter as many notes as necessary in the big **Work Order Notes** box on the 2nd tab of the form, labeled “Notes”.

14 At this point the work order is ready for dispatching.

15 Print the work order using the “Print” button in the lower left-hand corner of the form. A service crew can then take the printout with them into the field so they have a place to make notes.
16 On the 3rd tab of the work order form, labeled “Background”, there are fields to store supplementary information about the work order. You can fill out these fields before or after the work order is dispatched.

![Figure 4-11. Background tab on work order form](image)

17 The **Source Type** field is a good way to categorize where complaints originate from.

**NOTE:** The **Source Type** field is not the same as the **Reported By** field on the 1st tab. The **Reported By** field is intended to show someone’s name and phone number. The **Source Type** field shows generic categories of sources.

18 Use the **Assignment** field to identify the ID of the crew dispatched to handle the work order.

19 The **Reference File** field is useful when you have correspondence or other written materials (police reports, drawings, etc.) that pertain to the work order. You can maintain all of the paper documents in a file and then store the reference number that identifies the file in this field.

20 The **Flooded** and **Barricaded** fields allow you to flag your most troublesome jobsites (which you can later list in a “hot jobs” report.)

21 **Work Order Hours**, **Cost**, and **Account Number** are basic cost accounting fields.

22 The **Reportable Overflow** checkbox and three accompanying **PM fields** are for reporting sanitary sewer overflows (SSO’s) or combined sewer overflows (CSO’s) to your local regulatory authority. A report can be run to list the troublespots you’ve had, as well as what pm’s (if any) you’ll schedule to prevent a recurrence of the problem.

These are important elements in a CMOM program.

23 When the crew returns, finish out the work order by entering the data gathered by the crew.
24 If the crew was able to determine the ID number of the structure they worked on (usually from a map), enter the **structure type** and **structure ID number** in the fields at the top right-hand corner of the form.

OASIS will then make the work order a part of the permanent work order history of that structure.

25 Select an entry in the **Action Description** field to describe what the crew did.

26 Enter a number into the **Action Quantity** field for the amount of work accomplished.

27 Change the **Status** field to read “Done”.

28 Use the “Today” and “Now” buttons to enter current values in the **Problem Done Date** and **Problem Done Time** fields. You can also change them manually as you see fit.

**NOTE:** This shortcut will also automatically change the **Status** field to “Done”.

This completes the instruction section for creating complaint work orders.
Create Inspection Detail Records

For a general discussion related to this topic, see "Basic Inspection Management" on page 3-12 in the “OASIS Operating Guide”.

Description

This command is used to record the defects found during an inspection of any/all of the five OASIS structure types: manholes, main lines, service laterals, catchbasins/stormdrains, and septic tanks.

Before You Begin

- The inspection details screen form is the same all structure types and resembles a TV log.
- Inspection details are different from the inspection record.
  The inspection details form records each defect, maintenance condition, etc. The inspection record keeps track of when the structure was last inspected, when it is due to be inspected next. (See "Schedule Inspections" on page 4-80 for specific instructions.)

Steps

1. Find the structure you want to enter condition data for. (See "Find a Structure Record" on page 4-71 for specific instructions.)

2. Click the “Inspection Details” button at the bottom. The Inspection Details screen will appear.
Create Inspection Detail Records

(The reproduction of the Inspection Details form below has been “super-sized” to improve readability.)

**NOTE:** Each line on the screen form contains one defect/observation.
- OASIS is designed to accept data starting from the left-hand side - use the “Tab” or “Enter” key to move to the right.
- You can also use the mouse to click in any field you wish.

3 Select the **Entry Point Reference** indicating where the defect is measured from. The choices are “U” or “D”.

   The OASIS default value is “U”, indicating “Upstream”, meaning that the location of the defect (recorded in the “Defect Starts” field) has been measured starting from the upstream manhole.

4 Enter the location where the **Inspection Defect Begins** (in feet or meters), as measured from the entry point where the inspection began. OASIS will accept 1 place decimals, e.g. “31.7”, which is required for accurate measurement expressed in meters.

   Structural defects such as those found in manholes usually don’t have a beginning or end value, but they do have a quantity (below).

5 Enter the location where the **Inspection Defect Ends** (in feet or meters), as measured from the entry point where the inspection began. (1 place decimals also applies here.)

   **NOTE:** You should end joint defects 1 foot (or 2 centimeters) from where it began.
6 OASIS will automatically enter the **Defect Quantity** (by subtracting the Defect Begins value from the Defect Ends value) or you can enter your own value. The default minimum value is “1”.

**NOTE:** All quantity values are rounded up to the next whole number for simplicity’s sake.

7 Select a **Defect Code** from the drop-down list.

You can customize the Defect Code look-up table for this picklist.

(See “Customize the OASIS Lookup Tables” on page 4-48 for specific instructions.)

8 The Defect **Unit of Measurement** is automatically entered by OASIS depending on what is in the look-up table.

9 Select a **Recommended Action** from the drop-down list.

You can customize the Recommended Action look-up table for this picklist.

10 OASIS will automatically enter the **Recommended Action Quantity** (by reading what has been entered into the Defect Quantity field) or you can enter your own value.

11 The Recommended Action **Unit of Measurement** is automatically entered by OASIS depending on what is in the look-up table.

12 Enter the **Repair Priority** from the drop-down list. The highest priority is “1”, the least is “4”.

![Figure 4-14. Inspection Details Form Showing Priority Picklist](image-url)
Selecting the correct priority is **VERY** important because the OASIS defect reports are based on the priority classifications:

- Joint Defects
- Maintenance Problems
- Pipe Defects
- Structural Defects: non-pipe

“Not applicable” is used to mark non-defects such as the location of service taps.

**NOTE:** Joint defects are classified separately because the repair/rehab methods for joints are often quite different (e.g., grouting) than for pipe.

13 Enter a checkmark into the **WO?** check box if you want OASIS to automatically generate a work order to respond to the problem. See below for a continuation of this feature.

14 Enter free-form notes in the **Notes** field.

15 Proceed to the next line (just press Enter) and continue with the next defect.

16 When you are done entering all the defects, review the records you want to generate work orders for, and make sure there is a checkmark for each one.

17 Click the “**Create WO’s From Marked Inspection Details**” button at the bottom of the screen.

18 OASIS will create a work order for each defect or maintenance problem, using the information from the detail record and the structure itself.

   The **WO ID** field will contain the ID of an automatically generated work order, and the **WO Done?** field will have a checkmark in it when you mark the work order as completed.

19 Check out the work orders you’ve generated and print them whenever you desire. They will also be listed on the OASIS reports of pending scheduled work orders.

This completes the instruction section for creating inspection detail records.
Create Inspection Work Orders

See "Search Inspection Schedules" on page 4-87.
Create a Main Line Record

Description

This command is used to create a new record for a structure that is identified as belonging to the Main Line group within OASIS. Within the group are several different main line types: gravity sewer, storm sewer, force main, etc.

NOTE: The main line structure types - as with all structure types in OASIS - are controlled by the Structure Type lookup table, which is customizable by the user. See "Customize the OASIS Lookup Tables" on page 4-48.

Before You Begin

- The only required field in a structure record is a unique structure ID number (SID).
  The SID can be up to 16 characters in length. (This is true for all structures in OASIS, including manholes, main lines, service laterals, and septic tanks.)
- The instructions below are for building a cb/sd record from scratch, starting with a blank form.

Steps

1. Click the “Main Lines” button on the Main Menu. The main line form will appear.

2. Click the “New” button at the bottom of the screen. A blank form will appear and you can fill in the fields as appropriate.
3 If the upstream and downstream manholes that form the main line have already been entered into OASIS, just type the manhole ID’s into the “Upstream” and “Downstream” fields. (OASIS automatically forms a main line ID number by joining the two manhole numbers and putting a plus (“+”) sign between them, e.g., “501+502”.)

- Each manhole ID will be automatically checked by OASIS to see if it already exists in the database.
- If it exists, OASIS will fill in as much information about the manhole that is available.
- If it doesn’t exist in the database, OASIS will display an error message.

Figure 4-16. Main Line Form - Location tab
4 If the upstream and downstream manholes that form the main line have NOT been entered into OASIS, click the button labeled “Create Instant MH Records”. A pop-up form will appear that allows you to build manhole records on the fly.

![Figure 4-17. “Instant Manholes” Popup Form](image)

- You can mix/match new and existing manhole ID’s on the “Instant Manhole” form, e.g., you can enter the ID of a manhole that’s already in the database into the upstream field and enter the ID of new manhole record into the downstream field. And vice versa. Or both can be new records. Or both can be existing records, which would not make too much sense because you don’t need the Instant Manhole form in this case - just type both ID’s into the main form.
- The same error checking (for duplicate ID’s, etc.) is done on the Instant Manhole form as is done on the main form.

5 When you’re done entering manhole information, click “Save”, and OASIS will take you back to the main form - where your manhole data will appear automatically!

6 Additional features to use when you are on the main line “Location” tab:

- You can click the “Visit” buttons to jump out of the main line record over to the associated manhole record. This is a handy feature to use for quick-reference navigation.
- You can click the “Go To Schematic” button to bring up a simple drawing that depicts many of the basic statistics about a main line.
“Location” Tab Fields Worthy of Special Attention

**Address Location Fields:** Each of the OASIS structure (and work order) forms has a set of fields for identifying addresses. The fields can be used to establish a street address or an intersection address, and the fields work the same on all of the forms.

See "Enter Address and Location Information for a Structure or Work Order" on page 4-60.

“Specs” Tab Fields Worthy of Special Attention

- Two “size” fields (Size 1 and Size 2) are provided to allow you to store the measurements of non-circular pipe cross-sections. (If OASIS detects a non-circular structure, it will prompt for both size fields to be filled in.)
- Pipe invert fields are included in the main line record because the invert of a pipe is sometimes NOT the same as the invert of the manhole it is connected to, most notably with drop manholes. For this reason, pipe invert values are stored separately so that hydraulic flow models can be correctly structured.

“Background” Tab Fields Worthy of Special Attention

- The “Age” field is calculated automatically from the “Date Built” field. If you know the year of construction/major rehab but not the date, enter January 1st of the applicable year.
- The “Warranty Currently In Force” field is automatically given a check-mark if the “Warranty Ends” date is in the future.
“Inspection” Tab

**Inspection Fields:** Each of the OASIS structure forms has a set of fields for storing inspection schedule information. The fields are uniform for all five structure groups.

See "Schedule Inspections" on page 4-80 for specific instructions.

“Condition” Tab

**Condition Assessment Fields:** Each of the OASIS structure forms has a set of fields for storing condition assessment information. The fields are uniform for all five structure groups.

See "Enter Condition Assessment Ratings" on page 4-63.
Create a Manhole Record

Description

This command is used to create a new record for a structure that is identified as belonging to the **Manhole Group** within OASIS. Within the group are many different **manhole types**: regular manhole, drop manhole, stormdrain manhole, etc. OASIS also uses the manhole group to identify pump stations.

**NOTE:** The manhole structure types - as with all structure types in OASIS - are controlled by the Structure Type lookup table, which is customizable by the user.

See "**Customize the OASIS Lookup Tables**" on page 4-48.

Before You Begin

- The only required field in a structure record is a unique structure ID number (SID).
  
  The SID can be up to 16 characters in length. (This is true for all structures in OASIS, including manholes, main lines, service laterals, and septic tanks.)

- The instructions below are for building a manhole record from scratch, starting with a blank form. If you have an existing record that closely resembles the one you are about to build, you might want to use the “Duplicate” command. It saves a lot of typing.
  
  See "**Duplicate a Record**" on page 4-59.

Steps

1. Click the “Manholes” button on the Main Menu. The manhole form will appear.

![OASIS Main Menu](image)

**Figure 4-19. OASIS Main Menu**
Create a Manhole Record

2 Click the “New” button at the bottom of the screen. A blank form will appear and you can fill in the fields as appropriate.

![Image of OASIS Demonstration Version Manhole]

“New Record” button

Figure 4-20. Location of the “New Record” Button

“Location” Tab Fields Worthy of Special Attention

**Address Location Fields:** Each of the OASIS structure (and work order) forms has a set of fields for identifying addresses. The fields can be used to establish a street address or an intersection address, and the fields work the same on all of the forms.

See "Enter Address and Location Information for a Structure or Work Order" on page 4-60.

“Specs” Tab Fields Worthy of Special Attention

- Two “size” fields (Size 1 and Size 2) are provided to allow you to store the measurements of non-circular openings. (If OASIS detects a non-circular structure, it will prompt for both size fields.)
- “Survey X” and “Survey Y” are provided to allow storage of survey/GPS location coordinates.

“Background” Tab Fields Worthy of Special Attention

- The “Age” field is calculated automatically from the “Date Built” field. If you know the year of construction/major rehab but not the date, enter January 1st of the applicable year.
- The “Warranty Currently In Force” field is automatically given a check-mark if the “Warranty Ends” date is in the future.
“Inspection” Tab

**Inspection Fields:** Each of the OASIS structure forms has a set of fields for storing inspection schedule information. The fields are uniform for all five structure groups.

See “Schedule Inspections” on page 4-80 for specific instructions.

“Condition” Tab

**Condition Assessment Fields:** Each of the OASIS structure forms has a set of fields for storing condition assessment information. The fields are uniform for all five structure groups.

See "Enter Condition Assessment Ratings" on page 4-63.

Create Preventive Maintenance Work Orders

See "Search Preventive Maintenance Schedules" on page 4-91.
Create a Scheduled Work Order

For a general discussion related to this topic, see "Basic Work Order Management" on page 3-2 in the “OASIS Operating Guide”.

Description

This command is used to create one of two types of work orders found in OASIS. The two types are complaint/emergency and scheduled.

A scheduled work order is prepared when you know the ID of the structure(s) involved.

Complaint work orders are distinguished from scheduled work orders because they are usually prepared using just a street address - phoned/written in by the public - with no advance knowledge of what structures are involved in the problem.

(See "Create a Complaint/Emergency Work Order" on page 4-12.)

Before You Begin

• You must know the ID of the structure involved in the work order.
• There are no required fields in a work order. OASIS assigns an ID to each work order when it is created. (If your agency uses its own work order numbers for dispatching or because they’re on pre-printed forms, etc., there is a field on the OASIS work order form to enter your agency’s work order control number.)

Steps

There may seem to be a lot of steps to filling out a work order, but don’t panic or get discouraged. The instructions are very complete, and once you’ve done it a couple of times, it will all be very easy to remember, and pretty fast to do. You will also decide which steps might not make sense for your agency, and you can skip them for good.

1 Find the structure you want to prepare the work order for. (See "Find a Structure Record" on page 4-71 for specific instructions.)

2 After the structure form opens (e.g., the main line form), click the “Work Order” button at the bottom of the form.

3 OASIS will check to see if there any existing work orders already in the database for this particular structure. If not, OASIS will ask you if you want to create a work order. Otherwise it will just go ahead and create the new work order.

NOTE: This sounds unnecessary but the design is intended to let you know you’re not opening up an unconnected work order. Just click “OK”. 
4 The new work order will open with all the available data from the structure record pre-
transferred to the new work order so you don’t have to type it all over again.

5 Skip the **OASIS Work Order ID** field. OASIS automatically assigns an ID number.

6 Skip the **Structure ID** fields. These have already been filled automatically by OASIS.

7 If you have an ID number from your agency’s pre-printed work order form (or some other type
of internal control number), enter it into the **Agency Work Order ID** field.

8 Skip the address fields. These have already been filled automatically by OASIS.

   **NOTE:** On the work order form, some of the location-related fields (ZIP, Drainage District,
and Neighborhood) are on the 3rd tab of the form, labeled “Background”.

9 Select a problem description from the drop-down list in the **Problem Description** field.

10 Enter an estimated amount in the **Problem Quantity** field.

11 Set a **Priority** for responding to the work order: 1 to 3.

12 Skip the **Status** field. By default, OASIS sets the status of a new work order to “Open”

13 Enter the name of who/what reported the problem in the **Reported By** field.

   If the situation warrants, create a customer contact diary by clicking the “Open Customer
Diary” button at the bottom of the screen. See “Create a Work Order Customer Diary” on
page 4-42 for specific instructions.
14 Use the “Today” and “Now” buttons to enter current values in the **Problem Reported Date** and **Problem Reported Time** fields. You can also change them manually as you see fit.

15 Enter as many notes as necessary in the big **Work Order Notes** box on the 2nd tab of the form, labeled “Notes”.

16 At this point the work order is ready for dispatching.

17 Print the work order using the “Print” button in the lower left-hand corner of the form. A service crew can then take the printout with them into the field so they have a place to make notes.

18 On the 3rd tab of the work order form, labeled “Background”, there are fields to store supplementary information about the work order. You can fill out these fields before or after the work order is dispatched.

![Figure 4-22. Background tab on work order form](image)

19 The **Source Type** field is a good way to categorize where work orders originate from.

**NOTE:** The **Source Type** field is not the same as the **Reported By** field on the 1st tab. The **Reported By** field is intended to show someone’s name and phone number. The **Source Type** field shows generic categories of sources.

20 Use the **Assignment** field to identify the ID of the crew dispatched to handle the work order.

21 The **Flooded** and **Barricaded** fields allow you to flag your most troublesome jobsites (which you can later list in a “hot jobs” report.)

22 **Work Order Hours, Cost**, and **Account Number** are basic cost accounting fields.
23 The Reportable Overflow checkbox and three accompanying PM fields are for reporting sanitary sewer overflows (SSO’s) or combined sewer overflows (CSO’s) to your local regulatory authority. A report can be run to list the troublespots you’ve had, as well as what pm’s (if any) you’ll schedule to prevent a recurrence of the problem.

These are important elements in a CMOM program.

24 When the crew returns, finish out the work order by entering the data gathered by the crew.

25 If the crew determined that ID number of the structure they worked on (usually from a map) was wrong, enter the correct structure type and structure ID number in the fields at the top right-hand corner of the form.

OASIS will then make the work order a part of the permanent work order history of that structure.

26 Select an entry in the Action Description field to describe what the crew did.

27 Enter a number into the Action Quantity field for the amount of work accomplished.

28 Change the Status field to read “Done”.

29 Use the “Today” and “Now” buttons to enter current values in the Problem Done Date and Problem Done Time fields. You can also change them manually as you see fit.

NOTE: This shortcut will also automatically change the Status field to “Done”.

This completes the instruction section for creating scheduled work orders.
Create a Septic Tank Record

Description

This command is used to create a new record for a structure that is identified as belonging to the Septic Tank Group within OASIS.

Before You Begin

- The only required field in a structure record is a unique structure ID number (SID).
  - The SID can be up to 16 characters in length. (This is true for all structures in OASIS, including manholes, main lines, service laterals, and septic tanks.)
- The instructions below are for building a septic tank record from scratch, starting with a blank form. If you have an existing record that closely resembles the one you are about to build, you might want to use the “Duplicate” command. It saves a lot of typing.
  - See "Duplicate a Record" on page 4-59.

Steps

1. Click the “Septic Tanks” button on the Main Menu. The septic tank form will appear.

![Figure 4-23. OASIS Main Menu](image)
2. Click the “New” button at the bottom of the screen. A blank form will appear and you can fill in the fields as appropriate.

“Location” Tab Fields Worthy of Special Attention

**Address Location Fields:** Each of the OASIS structure (and work order) forms has a set of fields for identifying addresses. The fields can be used to establish a street address or an intersection address, and the fields work the same on all of the forms.

See "Enter Address and Location Information for a Structure or Work Order" on page 4-60.

“Specs” Tab Fields Worthy of Special Attention

- “Capacity” is unlabeled and can measure gallons or liters.
- “Drain Field Length” is unlabeled and can measure feet or meters.

“Background” Tab Fields Worthy of Special Attention

- The “Age” field is calculated automatically from the “Date Built” field. If you know the year of construction/major rehab but not the date, enter January 1st of the applicable year.
- The “Warranty Currently In Force” field is automatically given a check-mark if the “Warranty Ends” date is in the future.
Create a Septic Tank Record

“Inspection” Tab

**Inspection Fields:** Each of the OASIS structure forms has a set of fields for storing inspection schedule information. The fields are uniform for all five structure groups.

See "**Schedule Inspections**" on page 4-80 for specific instructions.

“Condition” Tab

**Condition Assessment Fields:** Each of the OASIS structure forms has a set of fields for storing condition assessment information. The fields are uniform for all five structure groups.

See "**Enter Condition Assessment Ratings**" on page 4-63.
Create a Service Lateral Record

Description

This command is used to create a new record for a structure that is identified as belonging to the service lateral group within OASIS.

Before You Begin

- The only required field in a structure record is a unique structure ID number (SID). The SID can be up to 16 characters in length. (This is true for all structures in OASIS, including manholes, main lines, service laterals, and septic tanks.)
- The instructions below are for building a service lateral record from scratch, starting with a blank form. If you have an existing record that closely resembles the one you are about to build, you might want to use the “Duplicate” command. It saves a lot of typing.

See "Duplicate a Record" on page 4-59.

Steps

1. Click the “Service Laterals” button on the Main Menu. The service lateral form will appear.

![Figure 4-25. OASIS Main Menu](image)
2. Click the “New” button at the bottom of the screen. A blank form will appear and you can fill in the fields as appropriate.

“Location” Tab Fields Worthy of Special Attention

**Address Location Fields:** Each of the OASIS structure (and work order) forms has a set of fields for identifying addresses. The fields can be used to establish a street address or an intersection address, and the fields work the same on all of the forms.

See "Enter Address and Location Information for a Structure or Work Order" on page 4-60.

**Drains To This Structure:** This field is where you store the structure ID of the manhole or main line that the service lateral is connected to.

- If you know the structure ID number where the service lateral drains to, just enter it into the field. OASIS will double-check your entry to see if the “Drains To” structure is already in the database. If it is not in the database, OASIS will give you an error message, and you can delete your incorrect entry.
- If you think the “Drains To” structure is in the database, but you can’t remember the ID number, you can select the SID from a list of structures already stored in your database.
1. Click the wide button labeled “Click here to choose a drainage structure”.

![Diagram showing how to click the button](image1.png)

Figure 4-27. Location of the “Choose a Drainage Structure” and “Visit” Buttons

2. A pop-up box will appear on screen:

![Diagram showing the pop-up box](image2.png)

Figure 4-28. “Choose a Drainage Structure” pop-up box
3 In the pop-up box, click the structure group that the service lateral drains to, and click the “Search” button. A list of structures that matches your criteria will appear in the pop-up box.

![Figure 4-29. “Choose a Drainage Structure” pop-up box, filled in](image)

- All five types of structures are listed, even though it is highly improbable that a service lateral will drain to anything except a manhole or main line. But you never know in this business.(!)
- You can narrow down the search by including an address number and/or street name in the search.
  
  For example, you could click the “Manholes” box along with “Birch St.” from the list of street names, and you will be shown a list of all the manholes on Birch Street.
- You can enter the ID directly into the box labeled “SID”.

4 After you’ve found the “Drains To” structure in the list, click it and then click “Select” button, or just double-click the entry in the list. OASIS will open the structure form containing the “Drains To” structure so you can double-check your selection.

5 If the structure is correct, just click the “Exit” button in the lower right corner of the “Drains To” structure form. It will close and the SID will appear in the “Drains To This Structure” field on the service lateral form.

**“Visit” button:** After an SID is entered into the “Drains To This Structure” field, you can use the “Visit” button to temporarily jump to the record of the structure listed in the “Drains To This Structure” field. For example, if the service lateral drains to manhole #501, clicking the “Visit” button will take you to the manhole record for #501.

**“Specs” Tab Fields Worthy of Special Attention**
- “Stationing” data fields are provided to allow accurate positioning information of service taps.

**“Background” Tab Fields Worthy of Special Attention**
• The “Age” field is calculated automatically from the “Date Built” field. If you know the year of construction/major rehab but not the date, enter January 1st of the applicable year.

• The “Warranty Currently In Force” field is automatically given a check-mark if the “Warranty Ends” date is in the future.

“Inspection” Tab

**Inspection Fields:** Each of the OASIS structure forms has a set of fields for storing inspection schedule information. The fields are uniform for all five structure groups.

See "Schedule Inspections" on page 4-80 for specific instructions.

“Condition” Tab

**Condition Assessment Fields:** Each of the OASIS structure forms has a set of fields for storing condition assessment information. The fields are uniform for all five structure groups.

See "Enter Condition Assessment Ratings" on page 4-63.
Create a Work Order Customer Diary

Description

This command is used to create a diary of your agency’s interaction with a customer.

It is often helpful to be able to trace back through the contact records to see who said what about what on what day, especially if legal action over a dispute is contemplated.

Before You Begin

- Customer diaries can be kept for both complaint/emergency work orders and scheduled work orders, although experience will tell you that diaries are rarely needed for scheduled work orders because this type of work order is usually generated internally by the agency.
- There is a companion command used for searching for a particular customer. See "Search for a Customer Record" on page 4-84.

Steps

1. Click the “Open Customer Info Diary” button at the bottom of any work order. The Customer Info and Diary screen will appear.

![Figure 4-30. Work Order](image)
2 Fill in the customer info - most of the fields in the top part of the form are self-explanatory.

3 The **Assigned To** field stores the name of the person who is handling the situation. It could be the dispatcher, a service crew leader, a supervisor, etc.

4 The **Customer Name** and the **On-site Contact** can be different people, especially if a property owner has a plumber or engineer involved.

5 The **mailing address** fields - like all address fields in OASIS - will accept any street name (or city name, etc.) which can be very useful in the customer diary when property owners do not have a mailing address within your agency’s postal jurisdiction.

6 The **Notes** field is for general notes. There is a separate notes field for each event. (See below.)

7 The event diary fields at the bottom of the form provide you with unlimited means to keep track of each contact with a customer.

   - The **Complaint Status** field gives you five choices to describe the current status of the situation. They are each explained when you click the pull-down box.
   - The **Event Date** indicates the date of that specific contact.
   - The **Contact Method** field lists the most commonly used means of communicating with customers.
   - The **Doc ID** field lets you store the ID of a paper document and/or file folder that pertains to this contact.
   - The **By** field keeps the initials of the person who handled this particular event.
   - The **Notes** field is barely visible on the screen, but if you click inside it, and then press Shift-F2, a notes box will pop-up on the screen where you can store notes about this event.
8 You can print the entire customer record, including all the events in the diary, by clicking the “Print” button.

9 The “Save” key stores your data in OASIS. (It’s the only place in OASIS where there is an explicit “save” command.)

10 The “Delete” key removes the record.

This completes the instruction section for creating a customer diary.
Create Work Orders To Maintain Inspection and Preventive Maintenance Histories

Description

This command directs OASIS to silently produce work orders documenting inspections and preventive maintenance.

Following the commands (documented elsewhere in this chapter) for conducting inspections and doing preventive maintenance are satisfactory to the extent that you can keep track of these activities in present time.

In other words, you know you can keep up with scheduled work. But what about the historical profile of your inspection and pm work? How does one keep track of it without having to type a work order for everything, including routine work? That’s what this command is about.

It is one of the most valuable commands in OASIS and yet requires almost no user action.

Before You Begin

Deciding how OASIS should handle the generation of the work orders is your key operational decision.

The way OASIS maintains inspection and pm history is by creating a completed work order for each activity that’s been done. But it's up to you to decide how to handle the process. You have three choices:

Choice 1: OASIS will create a completed work order after you update the “Date Last Done” field on a structure's inspection or pm record. The creation will be “silent”, that is, it will be done without you seeing any changes or movement on the screen. The work order creation will happen automatically and you will not be prompted to confirm that you want to create it.

Choice 2: The same as Choice 2 except that you WILL be prompted each time to confirm that you want a work order to be created. If you click the “Yes” button on the prompt, a work order will be silently created.

Choice 3: OASIS will not create a work order when the inspection or pm is updated. This is the best choice for users who want to create individual work orders for each inspection or pm BEFORE doing the activity. Otherwise, you would end up with two work orders for the same activity, one that you had created and one that OASIS had created as described in choices 1 and 2 above.
Steps

1. To implement your choice in how to handle inspection and pm history, go to the bottom of the OASIS Main Menu and click the “Program Administration” button to bring up the Administration Form.

![Figure 4-32. OASIS Main Menu](image)

2. On the right side of the Admin form are several buttons for handling different items. Two of them are for running this command.

![Figure 4-33. OASIS Administration Form](image)
3 Click the “Set PM History Preference” button. The preferences screen for pm’s will appear.

![Image of Set PM History Preference Form]

Figure 4-34. “Set PM History Preference” Form

4 Select your preference by clicking one of the choices on the list, and then clicking the Cancel/Done button.

**NOTE:** The explanatory text in the pop-up window is the same as what appears above in the “Before You Begin” section of this command description.

5 Repeat the process for your inspection history preference by clicking the “Set Inspection History Preference” button on the Admin form.

An almost identical screen will pop-up to allow you to set your preferences.

That’s all there is to it! The historical work orders can be viewed, searched, and reported on just like any other work order.
Customize the OASIS Lookup Tables

Description

Data consistency on OASIS screen forms is enforced by the widespread use of lookup tables that are completely customizable. Most of the OASIS tables come pre-loaded with codes that you should find quite useful and you don’t have to edit them unless you need to. (Two exceptions to this are the Street Names table and the City Codes table. They must be customized to your agency’s jurisdiction.)

The lookup tables appear as “drop-down” boxes containing lists of choices to pick from on the forms. The picklists are filled by data stored in the OASIS lookup tables which contain data such as structure types, street names, material type, etc.

There are six types of activity for lookup table management:

- Add a lookup code
- Change a lookup code
- Delete a lookup code
- Add a street name
- Change a street name
- Delete a street name

Instructions for each of these activities are shown below.
Steps

1. Go to the bottom of the OASIS Main Menu and click the “Program Administration” button to bring up the Administration Form.

![Figure 4-36. OASIS Main Menu](image.jpg)

2. On the left side of the Admin form are several buttons for handling the lookup tables.

![Figure 4-37. OASIS Administration Form](image.jpg)
3 To **Add, Change, or Delete** an item to a lookup table - except street names:

Select the lookup table you want to edit by clicking the table, and then clicking “Open”. (You can also open a table by double-clicking its name.) The selected table will open. In this example, the Material Type Code table is open.

![Figure 4-38. OASIS Lookup Table (Material Type Codes)]
4 To **add** a code to the table, scroll down to the bottom of the table where there is a blank line to type on. Type the code and its description in the spaces provided.

**NOTE:** Don’t be concerned about “fitting” your entry into the sort order of the list. OASIS will automatically re-sort the list when it is opened the next time, either here in Program Admin, or in a structure form.

5 To **delete** a code from a table, select the code by clicking on the gray box in the far left column. This will cause the entire line to turn black with white lettering. (You can select more than one code at a time, if you wish.)

6 Click the “Records” pull-down menu at the top of the screen menu. Click “Delete Record(s)” from the menu choices. You will be asked to confirm the deletion. After confirmation, the record(s) will be removed from list.

7 To **change** a code, click the code/description and make the changes you want. When you are done, just leave the record (by clicking on any other record in the table), and your change(s) will be save automatically.

**NOTE:** Important! If you have used a code in the database, and then later change it here in the lookup table, only future use of the code will be affected. Any of the old codes that are in the database will have to be changed manually. The only exception is street names, discussed next.
8 Special instructions for certain tables:

- **Problem Codes - 3rd column**
  
  The third column in this table is labeled “Default Action”. In this column you can optionally specify a default action code for each problem code in the table. This column has a pop-down box that reads all the values in the “Action” lookup table, and you can select one if you wish. This is not a required field.

- **Problem Codes - 6th column**
  
  The sixth column in this table is labeled “Inspection Defect Status”. In this column you indicate where you want this code to be used in OASIS. This is a required field.

  There are three choices: A code can be used in inspection details (choice 1), work orders (choice 2) or both (choice 3).

  The reason for making a choice is that some problems naturally appear in inspections, (e.g., cracked pipe or service lateral taps), some naturally appear in work orders (e.g., basement backed up or manhole cover missing) and some appear in both (e.g., roots).

  By indicating a choice in this column, you don’t have the drop-down boxes on the forms uselessly filled with codes that are not appropriate for that form. For example, the problem description field on the work order form will not be filled with TV inspection codes. Likewise, the TV inspection form will not be filled with work order codes.

  If you really like seeing all the codes all the time everywhere in the database, you can set all of them to choice “3”!

- **Structure Type Codes**

  The third column in this table lists the five structure groups in OASIS: manholes, main lines, service laterals, catchbasins/stormdrains, and septic tanks.

  When adding or editing a structure type, you must choose one of the structure groups in order to complete the record.
9 To **add a street name**, click “Add or Change a Street Name” on the Program Administration menu.

![OASIS Administration Form](image)

**Figure 4-40. OASIS Street Name Popup Window**

10 Follow the instructions on the pop-up form to enter each street name. (Sorry, although it may be tedious to enter all the names one-at-a-time, OASIS is very careful about cross-checking street names, so there is a good reason for the way this process was designed!)

11 To **change a street name**, select the old name from the list, and then enter the new name below it.

**NOTE:** Changing a street name is usually done to correct a previous spelling mistake.

12 To **delete a street name**, the back-end file for OASIS (OASISBE.mdb) must be opened with a copy of Microsoft Access and the street name manually removed. This process is made intentionally difficult so that street name records are never accidentally/unintentionally deleted.
Delete a Lookup Code

see "Customize the OASIS Lookup Tables" on page 4-48 in the “Cookbook”.

Delete the OASIS Sample Data

Description:

In order to have OASIS make sense, it comes with a full-fledged set of sample data. The data is organized around a fictitious sewer system called the “Metro Sewer District”. There are maps of the district included in the Getting Started Guide for your reference.

NOTE: These maps were not produced by OASIS. They were drawn using Microsoft Visio and then imported into the manual. OASIS is not sewer mapping software, but the data you enter into OASIS is fully accessible by all the popular mapping programs such as ArcView, MapInfo, etc. For more details, see "External Access to OASIS Data" on page 6-4.

You can “play” with the sample data as much as you want without affecting your agency database, and you can delete the sample data and start over with a “clean” copy of the sample data anytime you want. (Very handy to have if you think you botched something up...)

Before You Begin:

Deletion of sample data is not harmful to any data that is in your agency database.

The sample database is completely independent. New users of OASIS can practice using the program without interrupting the use of agency data in any way.
Delete the OASIS Sample Data

Steps:

1. Go to the bottom of the OASIS Main Menu and click the “Program Administration” button to bring up the Administration Form.

![Figure 4-41. OASIS Main Menu](image1)

2. Click the “Use Fresh Sample Data” button on the Administration Form to bring up the confirmation form.

**NOTE:** This button only appears when using the sample database. It is NOT visible when you are using the agency database. (Safety first!)

![Figure 4-42. OASIS Administration Form](image2)
3 Click the “Use Fresh Sample Data” button. Click the confirmation screen that appears. The sample database now contains refreshed data.

![Sample Data Refresh Confirmation Form]

Figure 4-43. Sample Data Refresh Confirmation Form
Delete Records

Description:
Deleting records in OASIS is a fairly uniform process across all the forms. Once you see how it works, deleting records will become second-nature.

Before You Begin:
Deletion of data should be done only after careful consideration of the consequences. For all intents and purposes, a deleted record is gone forever. It requires programmer-level knowledge to attempt a record recovery, and it can’t be done by anyone after database maintenance (repair/compact cycle) is done.

The most common mistake with deletions is the mistaken belief that records can’t be corrected, only deleted and re-entered. That is not the case, and mistakes should be erased or back-spaced - then corrected, not deleted.

Steps:
1. To delete a record while you are in form view (only one record is on the screen, in the usual data-entry form), just click the “Records” pull-down menu at the top of the screen menu.

2. Click “Delete Record(s)” from the menu choices. You will be asked to confirm the deletion. After confirmation, the record will be removed from list.

3. To delete a record that is in datasheet view/scrolling form view (spreadsheet view), select the record by clicking on the gray box in the far left column. This will cause the entire line to turn black with white lettering. (You can select more than one record at a time, if you wish.)

4. Click the “Records” pull-down menu at the top of the screen menu. Click “Delete Record(s)” from the menu choices. You will be asked to confirm the deletion. After confirmation, the record(s) will be removed from list.

That’s all there is to it. Just be careful. If you delete a structure record, all of its inspection, pm and work order records are gone too!
Delete a Street Name

see "Customize the OASIS Lookup Tables" on page 4-48 in the “Cookbook”.

Duplicate a Record

Description:

Duplicating records is very handy and time-saving, especially when entering records that are very similar to one another.

Before You Begin:

Record duplication is limited - by intention - to manholes, service laterals, catchbasins/stormdrains, septic tanks, and preventive maintenance. Main line records were omitted because of confusion about what the upstream and downstream manholes “are” vs. what “will be”. Work orders and inspection details, etc. change significantly from one record to the next, so their duplication was omitted to help prevent bad data from getting into the database.

Steps:

1. Find the structure you want to duplicate. (See "Find a Structure Record" on page 4-71 for specific instructions.)

2. To duplicate the record, just click the “Duplicate” button at the bottom of the form.

3. You will be prompted for the new structure ID (SID) and OASIS will check to see if it’s already being used. If not, OASIS will keep all the information from the original record and insert the new structure ID (SID).

That’s all there is to it.
Enter Address and Location Information for a Structure or Work Order

- There is a set of fields for identifying the location and/or address of a structure or work order.
- Addressing can be done by street address or by intersection.

**NOTE:** The success of addressing is very dependent on the quality of the “Street Names” lookup table. See "Customize the OASIS Lookup Tables" on page 4-48.

**Street Address:** The most complete street address would read like this: “123 Aspen St. between Main St. and Perry Blvd.” This is the most definitive street address possible in OASIS.

However, you can store a street address using less than complete information, for example, “Aspen St. between Main St. and Perry St.”, or even less than that: “Aspen St.”, all by itself.

**Intersections:** Intersection addressing is done by identifying the two cross-streets that make up the intersection. If there are more than two streets that make up the intersection, you need to choose the two that best describe it.

**Choosing between an intersection and a street address:**

- If the address is located at an intersection, click the “Intersection” box on the form.
  Two fields appear for you to enter the two cross-streets.
• If the structure has a street address, un-click (or leave blank) the “Intersection” box on the form. A set of fields for entering a street address will appear.

Figure 4-45. Main Line with Street Address

Figure 4-46. Work Order with Street Address
Additional Location Fields: Besides the address fields, OASIS includes other fields that provide general location information: City, ZIP, Neighborhood, Drainage District, Field Map ID, Location Quick Reference, a checkbox to indicate that the location is in an easement, and a Location Notes box.

- The City field must be used if there is more than one city under your jurisdiction because of the problem of duplicate street names shared by two or more cities.
- The ZIP field is useful if there is more than one ZIP code (or postal code) under your jurisdiction, AND you keep track of data by ZIP/postal code.
- The Neighborhood field allows you to track information by neighborhood, subdivision, etc.
- The Drainage District field allows you to track data by drainage district, drainage basin, sub-basin, catchment, etc.
- The Field Map ID pinpoints which field map is associated with the structure.
- The Location Quick Reference field is a list of location reference points that can assist field crews in locating a structure.
- The Easement checkbox indicates that the structure or work order job is in an easement.
- Location Notes can hold a virtually unlimited amount of free-form notes about the location of a structure or work order problem.
Enter Condition Assessment Ratings

For a general discussion related to this topic, see "Basic Inspection Management" on page 3-12 in the “OASIS Operating Guide”.

Description

This command is used to enter condition assessment ratings for any/all of the five OASIS structure types: manholes, main lines, service laterals, catchbasins/stormdrains, and septic tanks.

Before You Begin

• The condition assessment screen form is the same all structure types.
• The condition assessment scale is the same for all structure types and uses a 1 to 4 scale of values:

  “1” is the worst rating of damage or maintenance deficiency.
  “2” indicates moderate damage or maintenance deficiency.
  “3” indicates an acceptable condition.
  “4” indicates that the structure is not rated for this assessment item.

Steps

1  Find the structure you want to enter condition data for. (See "Find a Structure Record" on page 4-71 for specific instructions.)

2  If you are in a hurry or have only limited data to make an assessment from, you can enter a single rating for the entire structure. This rating is entered on the “Inspection” tab of a structure record.
3 Click “Inspection” - the 4th tab on the form. The Inspection screen will appear.

![Inspection tab on the Main Line form](image)

Figure 4-47. Inspection tab on the Main Line form

4 Click on a single overall rating for the structure in the field labeled “Inspection Quick Rating”. This rating will appear in all the condition assessment reports.

See "Reports Guide" on page 5-1 for specific instructions.

5 If you have more extensive data, you can enter a comprehensive rating for different aspects of the structure. This rating is entered on the “Condition” tab of a structure record.
6 Click “Condition” - the 5th tab on the form. The Condition screen will appear.

![Condition Assessment tab on Main Line form](image)

**Figure 4-48. Condition Assessment tab on Main Line form**

7 Choose the appropriate rating for the structural condition:

- Structures that are beyond repair are rated at “1”. In addition, you can select a rehab/replacement method from the adjacent drop-down list, and you can enter an estimated cost to perform the rehab/replacement.
  
The rehab/replacement method and the estimated cost both appear on the structural condition reports in the Report Catalog. The cost values are summarized at the end of each report.

- Structures that are structurally damaged but contain repairable defects rated at “2”.
  
  If you have entered an inspection detail record for the structure (See "Schedule Inspections" on page 4-80 for specific instructions.), OASIS automatically calculates the total number of the 1st and 2nd priority defects on the inspection details report and places them on the “Condition” screen.
  
The count of defects also appears on the structural condition reports in the Report Catalog.

- Structures that are in good/acceptable condition are rated at “3” with no further detail.

8 Choose the appropriate rating for each of the seven non-structural conditions: Debris, grease, roots, inflow and infiltration, odor, vermin, and surcharging.

- Most of them are maintenance related, and are reported separately on the non-structural condition reports in the Report Catalog.
  
  See "Reports Guide" on page 5-1 for specific instructions.

This completes the instruction section for entering condition assessment ratings.
Filter Records

Description

You can filter records by selecting values in a form, subform, or datasheet. Filtering will narrow down the records to those that match your criteria, and the best part is that you can do it all from inside a regular OASIS form, like the main line form or datasheet.

Before You Begin

No special issues.

Steps

1. In a field on a form, subform, or datasheet, find one instance of the value you want records to contain in order to be included in the filter's results.

2. Select the value by clicking it with the mouse, and then:

   • Click the “Records” pull-down menu at the top of the screen. On the menu, click “Filter By Selection”.
   OR
   • Click the “Filter By Selection” icon on the toolbar. (It’s the one with the funnel and the lightning bolt.)

![Figure 4-49. Datasheet View of OASIS structure records](image)
3 Repeat step 2 until you have the set of records you want. By adding new criteria, one field at a time, you can create very sophisticated filters.

You can select all or part of a value in a field. How you select the value determines what records the filter returns. Use this table as a guide:

<table>
<thead>
<tr>
<th>Selecting</th>
<th>Finds records in which</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>The entire contents of a field (or placing the insertion point in a field without selecting anything particular.)</td>
<td>The entire contents of that field matches the selection.</td>
<td>You select the value “Berlin” in a field. The filter returns all records with Berlin as the city.</td>
</tr>
<tr>
<td>Part of a value starting with the first character in a field</td>
<td>The value in that field starts with the same characters you selected.</td>
<td>In the field containing the value “France restoration,” you select only “Fran.” The filter returns all records starting with “Fran,” such as Franchi S.p.A. and Frankenversand.</td>
</tr>
<tr>
<td>Part of a value starting after the first character in a field</td>
<td>All or any part of the value in that field contains the same characters you selected.</td>
<td>In a field containing the value “Old World Delicatessen,” you select the letters “Del”. The filter returns all records that have “del” anywhere in the field, such as Ernst Handel, Galería del gastrónomo, and Que Delícia.</td>
</tr>
</tbody>
</table>

4 You can also filter for records that do not have a certain value. After selecting a value, right-click it, and then click Filter Excluding Selection.

5 To remove a filter:

- Click the “Records” pull-down menu at the top of the screen. On the menu, click “Remove Filter/Sort”
- OR
- Click the “Remove Filter” icon on the toolbar. (It’s the one with the funnel and the red “X” going over it.)
Find and Replace Data

Description
You can find all occurrences of a specified value at once, or each occurrence one at a time. You can also do a “replace” at the same time, just like word processing software does.

Before You Begin
No special issues.

Steps

1. In Form or Datasheet view, locate the field (column) you want to search, unless you want to search all fields. (Searching a single field/column is faster than searching the entire table.)

2. Select the field (column) by clicking it with the mouse, and then:

3. If you just want to find a value(s):
   - Click the “View” pull-down menu at the top of the screen. On the menu, click “Find”.
   - OR
   - Click the “Find” icon on the toolbar. (It’s the one with the binoculars.)
   - In the “Find What” box, type the value you want to find.
   - If you don't know the exact value you want to find, you can use wildcard characters in the Find What box to specify what you're looking for. For examples of wildcard characters and how to use them, see below.
   - Set any other options you want to use in the Find dialog box.
   - To find the first occurrence of the value, click Find First. To find the next occurrence of the value and all subsequent occurrences, continue by clicking Find Next.

4. If you want to find and replace a value(s):
   - Click the “View” pull-down menu at the top of the screen. On the menu, click “Replace”.
   - In the “Find What” box, type the value you want to find; in the “Replace With” box, type the value you want to replace it with.
   - If you don't know the exact value you want to find, you can use wildcard characters in the Find What box to specify what you're looking for. For examples of wildcard characters and how to use them, see below.
   - Set any other options you want to use in the Replace dialog box.
   - To replace all occurrences of the specified value all at one time, click Replace All.
- To replace each occurrence one at a time, click Find Next, and then click Replace; to skip an occurrence and find the next one, click Find Next.
- You can replace all occurrences of the specified value at once or each occurrence one at a time. If you want to find Null values and zero-length strings, however, you must use the Find dialog box to find these occurrences, and then replace them manually.

5 If you don't know the exact value you want to find, you can use wildcard characters in the Find What box to search for partial or matching values:

- You use wildcard characters as placeholders for other characters when you are specifying a value you want to find and you:
  - Know only part of the value.
  - Want to find values that start with a specific letter, or match a certain pattern.

**NOTE:** You can use the following characters in the Find and Replace dialog boxes to find such things as field values, records, etc.

<table>
<thead>
<tr>
<th>Character</th>
<th>Usage</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>Matches any number of characters. It can be used as the first or last character in the character string</td>
<td>wh* finds what, white, and why</td>
</tr>
<tr>
<td>?</td>
<td>Matches any single alphabetic character.</td>
<td>B?ll finds ball, bell, and bill</td>
</tr>
<tr>
<td>[ ]</td>
<td>Matches any single character within the brackets.</td>
<td>B[ae]ll finds ball and bell but not bill</td>
</tr>
<tr>
<td>!</td>
<td>Matches any character not in the brackets.</td>
<td>b[!ae]ll finds bill and bull but not bell</td>
</tr>
<tr>
<td>-</td>
<td>Matches any one of a range of characters. You must specify the range in ascending order (A to Z, not Z to A).</td>
<td>b[a-c]d finds bad, bbd, and bcd</td>
</tr>
<tr>
<td>#</td>
<td>Matches any single numeric character.</td>
<td>1#3 finds 103, 113, 123</td>
</tr>
</tbody>
</table>
NOTE:

- Wildcard characters are meant to be used with text data types, although you can sometimes use them successfully with other data types, such as dates.

- When using wildcard characters to search for an asterisk (*), question mark (?), number sign (#), opening bracket ([]), or hyphen (-), you must enclose the item you're searching for in brackets.

For example, to search for a question mark, type [?] in the Find dialog box.

If you're searching for a hyphen and other characters simultaneously, place the hyphen before or after all the other characters inside the brackets. (However, if you have an exclamation point (!) after the opening bracket, place the hyphen after the exclamation point.)

If you're searching for an exclamation point (!) or closing bracket (]), you don't need to enclose it in brackets.

- You can't search for the opening and closing brackets ([]]) together because Microsoft Access interprets this combination as a zero-length string.
Find a Structure Record

Description

This command is used to open a structure record using only its structure ID number.

Before You Begin

- You need to know the ID number or you’ll have to use the search commands.
- There actually two ways to find a structure record:
  One is to use the “Find” button that appears at the bottom of each structure form.
  The other is explained below.

Steps

1. Click the “Structure Search by Type and Location” button on the Main Menu. The “Search For Structures” form will appear.

Figure 4-50. OASIS Main Menu
Find a Structure Record

2. Click the “Find By Structure ID” button

3. Enter the structure’s ID number into the pop-up box and click “Search”. If OASIS finds the structure record, it will open it and take you to it.

If not, you can try again, or use the “Search For Structures” fields on the same form to go fishing.

See "Search Structure Records" on page 4-99 for specific instructions.
Find a Work Order Record

For a general discussion related to this topic, see "Basic Work Order Management" on page 3-2 in the “OASIS Operating Guide”.

Description

This command is used to find and display a single work order using the work order’s ID number.

Before You Begin

You must know the work order ID ahead of time. If you don’t know the work order ID, you have to go fishing with the work order search command. See "See All the Records in the Database" on page 4-102 for specific instructions.

Steps

1. Click the “Find a Work Order by ID Number” button on the Main Menu. A blank work order will appear with a “Find a Work Order” pop-up dialog box on top of it.

   ![Figure 4-52. OASIS Main Menu](image)

2. The pop-up box offers you two ways to find the work order: by OASIS work order ID or by your agency work order ID.

   You may recall that although OASIS generates its own ID when you create a work order, the program also allows you to store your agency’s ID number also, usually a pre-printed or pre-assigned number that is unique to your agency.
That is why you have two, yes - two - that’s two ways - to find a work order.

Figure 4-53. Find Work Order Pop-up Dialog Box

3 Enter either number into the pop-up box and click “Find”. OASIS will double-check the number and open the appropriate work order if it exists.

This completes the instruction section for finding a work order by ID number.
Import Inspection Records

For a general discussion related to this topic, see "Basic Inspection Management" on page 3-12 in the “OASIS Operating Guide”.

Description

This command is used in conjunction with a laptop computer to capture inspection defect data in the field, and then import it into the office computer where the agency’s permanent database is kept.

NOTE: The laptop must be equipped with a floppy disk drive or a ZIP drive.

You must have at least 2 OASIS end-user licenses (one for the office computer and one for the laptop) in order to use this feature.

Before You Begin

You need to know - in advance - which structures are going to be inspected. You will be entering the ID numbers of the structures into the laptop computer. The database on the laptop is a “scratch” database, meaning that you will use it for capturing inspection data, but it will NOT be your permanent database. That database resides at the office, not in the field, and this command creates a one-way transfer of data from the laptop to the permanent database.

NOTE: You may be wondering why the laptop can’t contain a copy of the permanent database that could be synchronized with the office version. The reason is that OASIS is designed to be very simple to use, and database synchronization is a complex procedure that requires a lot of management when there is a problem. Data conflicts and corruption can be deadly and the remedial steps are somewhat beyond the scope of most agencies using OASIS.

This is an overview of the steps required to achieve a successful inspection data import.

- Create and print a list of (or work orders for) the structures to be inspected.
- Create a dummy record in the laptop database for each structure that’s going to be inspected.
- Do an inspection and enter the defects into the laptop.
- Select condition assessment ratings for the structure after entering the defect data.
- Export the inspection and condition assessment data to a floppy diskette (or ZIP disk).
- Bring the floppy into the office and insert into the computer where the permanent database resides.
- Use the office copy of OASIS to import the information from the floppy.

Detailed instructions regarding these steps is shown below.

Steps

1. Create and print a list of (or work orders for) the structures to be inspected. Either method begins at the same place.
See "Search Inspection Schedules" on page 4-87 for specific instructions.

**BONUS:** OASIS allows you to capture inspection details data (but not condition assessment data) for a structure in a laptop database without having a corresponding record in the permanent database. So, you can also prepare a separate list of structures (from a map, for instance) to be inspected even if they are not yet entered into the permanent database. However, you must know the structure ID number(s).

2 Start OASIS on the laptop using the black icon (permanent data), not the yellow icon (sample data).

3 Create a new record for each structure that’s going to be inspected. All that’s required is the structure ID number (SID). Don’t enter any of the inspection-related data from the original record in the permanent database - it’s likely to be over-written by the import procedure anyway.

4 Open each structure record, conduct the inspection, and enter data into the inspection details form.

See "Create Inspection Detail Records" on page 4-17 for specific instructions.

5 When you’re done with the inspection details, close the Inspection Details form and enter as much data as you wish on the “Inspection” tab (Inspection Method, Inspection Tape ID, Inspection Crew ID, etc.) and on the “Condition” tab, which contains condition assessment ratings for the structure.

See "Enter Condition Assessment Ratings" on page 4-63 for specific instructions.

6 Open the inspection details form a second time.

7 Put a blank floppy or ZIP disk into the laptop.

8 Click the button labeled “Export Inspection Details” at the bottom of the inspection details form.

9 OASIS will create a small database on the floppy that contains all the inspection details for the structure, as well as a copy of everything you entered on the “Inspection” and “Condition” tabs.

10 Repeat these steps for as many structures as will be inspected: create the structure record, enter inspection details and the information on the Inspection and Condition tabs, open the details form again, and export the data to the floppy.

**NOTE:** Many records can be stored on a single floppy. You don’t need a separate floppy for each structure.

11 When you are finished doing inspections for the day (or shift, etc.) bring the floppy into the office and insert it into the computer where the permanent data is kept.
NOTE: It is not likely that a floppy will be full by the end of a working day because OASIS is very efficient at storing data, but it’s not good practice to use the floppy for days on end without downloading because of possible damage to it or accidental loss.

12 Start OASIS on the office computer and click the “Advanced Features” button on the Main Menu. The “Advanced Features” menu will appear.

![Figure 4-54. OASIS Main Menu](image)

13 Click the “Import Inspection Details” button on the menu.

![Figure 4-55. Advanced Features Menu](image)

14 OASIS will look for the floppy and execute the import procedure.
NOTE: OGASIS always looks first in the “A” drive because it is expecting a floppy diskette by default. If OGASIS cannot find the floppy - because you are using a ZIP disk, for instance - you will be prompted to identify which drive to look in.

15 During the import procedure, OGASIS will copy in all of your inspection data for each structure that it matches in the database. If you created records on the laptop for structures that are not yet in the permanent database (as explained above), OGASIS will display a popup window with a list of the non-matching structures.

![Figure 4-56. Missing SID’s Popup Window](image)

16 You have three choices:

- Print the list, for future reference, so you know what structure records need to be entered into the permanent database.
- Continue importing the records. Choosing this option will import the inspection detail records, but not the condition assessment data, if any. However, the detail records will remain invisible until the matching structure record is created in the permanent database.
- Stop doing the import. This is just a safety valve in case you need to quit for some reason.

**HINT:** The recommended action is to print the list for reference and then proceed immediately with the import.

17 When the import is done, you will see a confirmation popup indicating that the import is complete.

**NOTE:** OGASIS will delete the import data from the floppy/ZIP after everything is complete so that the data cannot be accidentally imported twice.
Print Records and Reports

- Printing any screen form or report is as easy as clicking the “Print” button wherever it appears throughout the program, usually at the bottom of the screen.

- You can also use the standard Windows pull-down menu at the top of the screen. Just click “File” and then pick one of the print-related commands on the menu. Selecting “Print” will bring up the standard Windows print dialog box where you set printing options such as the number of pages to print, etc.

- On occasion, there will be a toolbar button with an icon of a printer on it. The icon is a “speed-print” shortcut. It prints all pages available for printing and is handiest for printing a single record. It’s the equivalent of clicking the OASIS “Print” button at the bottom of the screen.

  However, you can be in for quite a surprise when you’ve assembled a long report, etc. so be cautious with using the button.

Run a Report

There is a completely separate guide for running and customizing reports. See "Reports Guide" on page 5-1 for specific instructions.
Schedule Inspections

For a general discussion related to this topic, see "Basic Inspection Management" on page 3-12 in the “OASIS Operating Guide”.

Description

This command is used to enter an inspection schedule for any/all of the five OASIS structure types: manholes, main lines, service laterals, catchbasins/stormdrains, and septic tanks.

Before You Begin

- The inspection schedule screen form is the same all structure types.
- An inspection schedule is different from inspection details.
  An inspection schedule keeps track of when the structure was last inspected, when it is due to be inspected next. The inspection details form records each defect, maintenance condition, etc.
  (See "Create Inspection Detail Records" on page 4-17 for specific instructions.)

Steps

1. Find the structure you want to enter condition data for. (See "Find a Structure Record" on page 4-71 for specific instructions.)

2. Click “Inspection” - the 4th tab on the form. The Inspection screen will appear.

![Figure 4-57. Inspection Tab on the Main Line form](image-url)
3 Select an inspection type from the drop-down list in the **Inspection Type** field.

   For your convenience, the inspection types (and codes) are also listed here:
   - **IAG** - Inspection from above-ground
   - **ICR** - Inspection by crawling crew
   - **ILA** - Inspection by lamping method
   - **IOT** - Inspection by “other” method
   - **IRO** - Inspection by remote operated device/robot
   - **ISO** - Inspection by sonar device
   - **ITV** - Inspection by tv
   - **IWK** - Inspection by walking crew

4 Select the **Inspection Frequency** (from 1 day to 20 years) between inspections, from the drop-down list.

5 Enter a date in the **Inspection Last Done** field.

   **HINT:** You can double-click on the date field to bring up a handy calendar to assist you in entering a date. This is true for all date fields in OASIS.

6 OASIS will use the frequency and the date last done to automatically calculate the date for the **Inspection Next Due**.

   - You can over-ride the automatic calculation if you need to adjust your inspection schedule.
   - OASIS keeps track of inspection due dates, and will automatically enter a checkmark in the **Inspection Late** field if/when an Inspection Next Due date is in the past.
   - There is a specific report in the Report Catalog for printing a list of late inspections.
     (See "**Reports Guide**" on page 5-1 for specific instructions.)

7 Enter the balance of the inspection record:

   - **Crew ID** and **Crew Hours** spent doing the inspection
   - **Inspection tape ID** and **Tape Index** (for main lines, usually)
   - **Inspection form ID** (for manholes, usually)

8 Click on a single overall rating for the structure in the field labeled “Inspection Quick Rating”. This rating will appear in all the condition assessment reports.

   If you have more extensive data, you can enter a comprehensive rating for different aspects of the structure. This rating is entered on the “Condition” tab of a structure record.

   (See "**Enter Condition Assessment Ratings**" on page 4-63 for specific instructions.)

This completes the instruction section for scheduling an inspection.
Schedule Preventive Maintenance

For a general discussion related to this topic, see "Basic Preventive Maintenance Management" on page 3-7 in the “OASIS Operating Guide”.

Description

This command is used to schedule preventive maintenance records for any/all of the five OASIS structure types: manholes, main lines, service laterals, catchbasins/stormdrains, and septic tanks.

Before You Begin

- The preventive maintenance scheduling procedure (and screen form) is the same all structure types.

Steps

1. Find the structure you want to schedule preventive maintenance for. (See "Find a Structure Record" on page 4-71 for specific instructions.)

2. Click the “PM” button at the bottom of the screen. The Preventive Maintenance screen will appear.

3. Select a pm type from the drop-down list in the PM Type field.

Figure 4-58. Inspection tab on the Main Line form
NOTE: This is a user-customizable field. See "Customize the OASIS Lookup Tables" on page 4-48 for specific instructions.

Figure 4-59. Preventive Maintenance Form

4 The Workload field will be automatically filled in by any value that’s already been entered into the “Length” field of the structure record. However, you can override/enter any value you want.

5 Select the PM Frequency (from 1 day to 20 years) between pm’s, from the drop-down list.

6 Enter a date in the PM Last Done field.

HINT: You can double-click on the date field to bring up a handy calendar to assist you in entering a date. This is true for all date fields in OASIS.

7 OASIS will use the frequency and the date last done to automatically calculate the date for the PM Next Due.

• You can over-ride the automatic calculation if you need to adjust your pm schedule.
• OASIS keeps track of pm due dates, and will automatically enter a checkmark in the PM Late field if/when an PM Next Due date is in the past.
• There is a specific report in the Report Catalog for printing a list of late pm’s.
  (See "Reports Guide" on page 5-1 for specific instructions.)

8 Enter the Crew ID and Crew Hours spent doing the pm.

9 At the bottom of the form is the Find PM’s/Create PM Work Orders button which opens a form to accomplish that purpose. See "Search for a Preventive Maintenance Record" on page 4-98 for specific instructions.

This completes the instruction section for entering a pm schedule.
Search for a Customer Record

Description

This command is used to search and display customer records that were entered into OASIS through the customer diaries.

Before You Begin

- The success of this command depends on accurate spelling, so be sure you’ve got everything right before doing a search.

Steps

1. Click the “Customer Search by Name and Address” button on the Main Menu. The “Search For Customers” form will appear.

Figure 4-60. OASIS Main Menu
2. Enter criteria suitable to your search and click the “Send a Preview Report To Screen” button in the lower left-hand corner. The list will appear.

3. If you like the results of your search, proceed to the next step.

   If you don’t like the results, you can return to the criteria-setting screen by clicking the button in the lower left-hand corner marked “To Criteria Selection”.

Figure 4-61. Search for Customers Form

Figure 4-62. “Search Customer Records” Results List With Criteria Set to Show All Records
You will be returned to the selection screen where you can change, remove, or add criteria. If you like the results of your search, proceed to the next step. If you don’t like the results, you can return to the criteria-setting screen by clicking the button in the lower left-hand corner marked “To Criteria Selection”.

You will be returned to the selection screen where you can change, remove, or add criteria.

4 If the list is satisfactory, you can print it, or jump to a specific record.

5 To print the list, just click the “Print The List Shown Above” button.

6 To jump to any one of the linked records, click the “To Customer Detail” button or the “To WO” button.

This completes the instruction section for searching customer records.
Search Inspection Schedules

For a general discussion related to this topic, see "Basic Inspection Management" on page 3-12 in the “OASIS Operating Guide”.

Description

This command is used to search and display lists of scheduled inspections without using the Report Catalog. You can specify criteria for searching the inspections and OASIS will do so accordingly. From the list on the screen, you can optionally choose to mark some/all of the records and OASIS will produce inspection work orders for dispatching crews.

Before You Begin

- Using this command will produce very simple and effective reports but it is not a substitute for learning and using the OASIS Report Catalog! Be sure to make the effort to produce reports because unlike this command, they contain statistical data.
  (See "Reports Guide" on page 5-1.)

Steps

1. Click the “Advanced Features” button on the Main Menu. The “Advanced Features” menu will appear.

Figure 4-63. OASIS Main Menu
2 Click the “Search Scheduled Inspections / Create Inspection WO’s” button on the menu. The search screen will appear.

![Figure 4-64. Advanced Features Menu](image)

3 Enter criteria suitable to your search as follows:
• **Line 1)** Due Date Range - Enter the range of inspection due dates you want to restrict your list to, or leave the two fields blank to get all due dates in the database. You can also use the checkbox to show only late inspections.

• **Line 2)** Inspection Type can be selected from the drop-down list, or leave blank for all.

• **Line 3)** Choose a Structure Group or leave blank for all.

• **Line 4)** Narrow down the group choice with a Structure Type or leave blank for all.

• **Line 5)** Select the appropriate location parameters or leave blank for all.

• **Line 6)** If desired, select inspections with or without current work orders, or both.

**NOTE:** As you may have seen, leaving fields blank cause OASIS to include all possible values. For this reason, if you leave ALL the fields on the form blank, OASIS will list ALL the scheduled inspections in the database (1).

4. Click the button at the bottom of screen marked “Send a Preview Report To Screen” The list will appear.

![Image of inspection schedule results]

**Figure 4-66. Find Inspections Results List With Criteria Set to Main Lines Group / Sanitary Sewers**

5. If you like the results of your search, proceed to the next step. If you don’t like the results, you can return to the criteria-setting screen by clicking the button in the lower left-hand corner marked “Return To Criteria Selection”.

You will be returned to the selection screen where you can change, remove, or add criteria.

6. If the list is satisfactory, you can print it, or create work orders from it.
7 To print the list, just click the “Print The List Shown Above” button. This list can be given to a crew to perform the inspection(s), and they can return it marked with updated information.

8 To create work orders:

- Go through the list and place a checkmark in the box labeled “Create WO” for each record you want a work order generated.
  (Use the Mark All or Mark None buttons at the bottom of the form to do global marking/un-marking of the entire list.)
- Click the “Generate Work Orders” button to have OASIS create the selected work orders. The created work order ID’s will appear in the form when it is opened the next time.
  - Check out the work orders you’ve generated and print them whenever you desire. They will also be listed on the OASIS reports of pending scheduled work orders.

9 When you are done with the entire process, click “Exit” at the bottom of the form to return to the “Advanced Features” menu.

This completes the instruction section for searching inspection schedules.
Search Preventive Maintenance Schedules

For a general discussion related to this topic, see "Basic Preventive Maintenance Management" on page 3-7 in the “OASIS Operating Guide”.

Description

This command is used to search and display lists of scheduled pm’s without using the Report Catalog. You can specify criteria for searching the pm’s and OASIS will do so accordingly.

From the list on the screen, you can optionally choose to mark some/all of the records and OASIS will produce pm work orders for dispatching crews.

Before You Begin

- Using this command will produce very simple and effective reports but it is not a substitute for learning and using the OASIS Report Catalog! Be sure to make the effort to produce reports because unlike this command, they contain statistical data.
  (See "Reports Guide" on page 5-1.)

Steps

1. Click the “Advanced Features” button on the Main Menu. The “Advanced Features” menu will appear.

Figure 4-67. OASIS Main Menu
2 Click the “Search Scheduled PM’s / Create PM Work Orders” button on the menu.

![Advanced Features Menu](image)

**Figure 4-68. Advanced Features Menu**

3 The search screen will appear.

![Search PM’s Form](image)

**Figure 4-69. Search PM’s Form**

4 Enter criteria suitable to your search as follows:
• **Line 1) Due Date Range** - Enter the range of pm due dates you want to restrict your list to, or leave the two fields blank to get all due dates in the database. You can also use the checkbox to show only late pm’s.
• **Line 2) PM Type** can be selected from the drop-down list, or leave blank for all.
• **Line 3) Choose a Structure Group** or leave blank for all.
• **Line 4) Narrow down the group choice with a Structure Type** or leave blank for all.
• **Line 5) Select the appropriate location parameters** or leave blank for all.
• **Line 6) If desired, select pm’s with or without current work orders**, or both.

**NOTE:** As you may have seen, leaving fields blank cause OASIS to include all possible values. For this reason, if you leave ALL the fields on the form blank, OASIS will list ALL the scheduled pm’s in the database (!).

5 Click the button at the bottom of screen marked “Send a Preview Report To Screen” The list will appear.

![Image](image.png)

**Figure 4-70. Find PM’s Results List With Criteria Set to Main Lines Group / Sanitary Sewers**

6 If you like the results of your search, proceed to the next step. If you don’t like the results, you can return to the criteria-setting screen by clicking the button in the lower left-hand corner marked “Return To Criteria Selection”.

You will be returned to the selection screen where you can change, remove, or add criteria.

7 If the list is satisfactory, you can print it, or create work orders from it.
8 To print the list, just click the “Print The List Shown Above” button. This list can be given to a crew to perform the pm(s), and they can return it marked with updated information.

9 To create work orders:

- Go through the list and place a checkmark in the box labeled “Create WO” for each record you want a work order generated.
  (Use the Mark All or Mark None buttons at the bottom of the form to do global marking/unmarking of the entire list.)
- Click the “Generate Work Orders” button to have OASIS create the selected work orders. The created work order ID’s will appear in the form when it is opened the next time.
- Check out the work orders you’ve generated and print them whenever you desire. They will also be listed on the OASIS reports of pending scheduled work orders.

10 When you are done with the entire process, click “Exit” at the bottom of the form to return to the “Advanced Features” menu.

This completes the instruction section for searching PM records and creating PM work orders.
Search Work Order Records

For a general discussion related to this topic, see "Basic Work Order Management" on page 3-2 in the “OASIS Operating Guide”.

Description

This command is used to search and display lists of work orders without using the Report Catalog. You can specify criteria for search the work orders and OASIS will do so accordingly.

From the list on the screen, you can jump directly to any of the records you want.

Before You Begin

- Using this command will produce very simple and effective reports but it is not a substitute for learning and using the OASIS Report Catalog! Be sure to make the effort to produce reports because unlike this command, they contain statistical data.

  (See "Reports Guide" on page 5-1.)

Steps

1. Click the “Work Order Search by Date, Type, and Location” button on the Main Menu. The “Search Work Orders” form will appear.

![Figure 4-71. OASIS Main Menu](image-url)
2 Enter criteria suitable to your search as follows:

- **Line 1) Date Range** - Enter the range of dates you want to restrict your list to, or leave the two fields blank to get all dates in the database. You can also select whether to use the “Date Reported” or the “Date Done” or both (the default).

- **Line 2) Work Order Status** (“Open” or “Done”) can be selected from the drop-down box, or leave blank for all.

- **Line 3) Problem Type** is a drop-down box that contains all of the codes from the “Problem Codes” look-up table that appear on work orders. Leave blank for all.

- **Line 4) Action Taken** is a drop-down box that contains all of the codes from the “Action Codes” look-up table that appear on work orders. Leave blank for all.

- **Line 5) Choose a Structure Group** or leave blank for all.

- **Line 6) Narrow down the group choice with a Structure Type** or leave blank for all.

- **Line 7) Enter your agency work order ID number to get a specific work order or leave blank.**

  Note: This harmlessly duplicates the “Find Work Order” command which you can take a shortcut to by clicking the “Find WO Using ID Number” button on this form. (See "Find a Work Order Record" on page 4-73 for specific instructions.)

- **Line 8) Select the appropriate location parameters** or leave blank for all.

**NOTE:** As you may have seen, leaving fields blank cause OASIS to include all possible values. For this reason, if you leave ALL the fields on the form blank, OASIS will list ALL the work orders in the database (!).
3 Click the button at the bottom of screen marked “Send a Preview Report To Screen” The list will appear.

3: Figure 4-73. “Search Work Orders” Results List With Criteria Set to Show All Records

4 If you like the results of your search, proceed to the next step. If you don’t like the results, you can return to the criteria-setting screen by clicking the button in the lower left-hand corner marked “Return To Criteria Selection”.

   You will be returned to the selection screen where you can change, remove, or add criteria.

5 If the list is satisfactory, you can print it, or jump to a specific record, or display all of the work orders in the list.

6 To print the list, just click the “Print The List Shown Above” button.

7 To jump to any one of the work order records, click the “Go To WO” button at the right of each record.

8 To see all the work orders in form view (sort of a “Jump to all of them at once” command), click the “Display All Listed Work Orders” button.

9 You can optionally create a new work order by clicking the “New WO” button. This is just a shortcut. The work you create will have no direct relationship with the work orders on the list.

10 When you are done with the entire process, click “Exit” at the bottom of the form to return to the Menu.

This completes the instruction section for searching work order records.
Search for an Inspection Record

Searching for an inspection record or a preventive maintenance record is dependent on locating the record of the structure that the inspection or pm belongs to because inspection and pm data is not separately identified from a structure. (Work orders, however, are separately identified.)

Once you have located the structure, you can review its inspection schedule/results or its pm schedule.

There are two ways to locate a structure:

- If you know the structure ID, you can go to the record directly. See "Find a Structure Record" on page 4-71.
- If you don’t know the work order ID, you have to go fishing with the structure search command. See "Search Structure Records" on page 4-99 for specific instructions.

Search for a Preventive Maintenance Record

See "Search for an Inspection Record" on page 4-98.
Search Structure Records

For a general discussion related to this topic, see "Basic Structure Record Management" on page 3-4 in the “OASIS Operating Guide”.

Description

This command is used to search and display lists of structures without using the Report Catalog. You can specify criteria for search the structures and OASIS will do so accordingly.

Before You Begin

- Using this command will produce very simple and effective reports but it is not a substitute for learning and using the OASIS Report Catalog! Be sure to make the effort to produce reports because unlike this command, they contain statistical data.

(See "Reports Guide" on page 5-1.)

Steps

1. Click the “Structure Search by Type and Location” button on the Main Menu. The “Search For Structures” form will appear.

Figure 4-74. OASIS Main Menu
Enter criteria suitable to your search as follows:

- **Line 1)** Choose a **Structure Group** or leave blank for all.
- **Line 2)** Narrow down the group choice with a **Structure Type** or leave blank for all.
- **Line 3)** Select the appropriate **location parameters** or leave blank for all.

**NOTE:** As you may have seen, leaving fields blank cause OASIS to include all possible values. For this reason, if you leave ALL the fields on the form blank, OASIS will list ALL the structures in the database (!).

- You can also click the “Find By Structure ID” button at anytime using the just the structure’s ID number.
Click the button at the bottom of screen marked “Send a Preview Report To Screen” The list will appear.

Figure 4-76. “Search Structure Records” Results List With Criteria Set to Show All Records

3 If you like the results of your search, proceed to the next step. If you don’t like the results, you can return to the criteria-setting screen by clicking the button in the lower left-hand corner marked “To Criteria Selection”.

You will be returned to the selection screen where you can change, remove, or add criteria.

4 If the list is satisfactory, you can print it, or jump to a specific record.

5 To print the list, just click the “Print The List Shown Above” button.

6 To jump to any one of the structure records, click the “Go To Structure button at the right of each record.

This completes the instruction section for searching structure records.
See All the Records in the Database

see "Use the “Show All” command" on page 4-128 in the “Cookbook”.

Sequence and Re-sequence Preventive Maintenance

For a general discussion related to this topic, see "Sequencing Preventive Maintenance" on page 3-20 in the “OASIS Operating Guide”.

Description:

The OASIS pm schedules are driven by the date when the pm is due and what type of pm it is. However, these two items do not address the question of what is the most efficient way to do all the pm’s. Sequencing preventive maintenance allows you to set up groups of scheduled pm events in a specific order, which enables maximum efficiency.

PM groups are usually set up according to routes. By routing pm’s that are physically close to one another (this is particularly true with catchbasin/stormdrain cleaning) the crews will have as little wasted motion as possible.

There is a set of OASIS reports specifically designed for sequencing pm’s. The crews use the reports as both routing sheets and production reports.

For a general discussion related to this topic, see "Dispatching Crews With PM Reports" on page 3-18 in the “OASIS Operating Guide”.

Before You Begin:

• You need to establish the groups and sequences (structure ID’s, structure types, pm types, and pm frequency) on paper before entering them into OASIS. OASIS doesn’t (can’t) create groups and sequences. These are decisions to be made by the agency staff. However, OASIS can rearrange them once they’re in the database.
   Also, structure types cannot be mixed. For example, when you set up a manhole group, you cannot put catchbasins/stormdrains into the same group.

• The instructions below use the data furnished in the OASIS sample database.
Steps to edit an existing pm group:

1. Go to the bottom of the OASIS Main Menu and click the “Program Administration” button to bring up the Administration Form.

2. Click the “Use PM Sequencing Manager” button on the Administration Form.
3 When the Sequencing Manager form appears, click the “Edit existing PM group” button.

![Figure 4-79. OASIS Sequencing Manager](image)

4 The list of existing groups will appear in a drop-down box. In the sample database, select "ML1" from the drop-down box.

![Figure 4-80. OASIS Sequencing Manager Showing List of Existing PM Groups](image)
5 The Sequencing Manager will display the structures and the pm information associated with the "ML1" group.

Figure 4-81. OASIS Sequencing Manager Showing Structures In PM Group "ML1"

6 There are several editing choices available. You can change the pm type and frequency, and you can add, change, or delete structures in a group.

7 The instructions on the form are reasonably complete, and you can proceed as you see fit.
Steps to adding a new pm group

1. Follow the above instructions until the Sequencing Manager screen opens. This time, click the command button marked "Create new PM group"

![Figure 4-82. OASIS Sequencing Manager](image)

2. Select a structure group from one of the five offered.

![Figure 4-83. OASIS Sequencing Manager Showing List of Structure Groups](image)
3. Enter an ID number for the new group. It can be any number you wish, but cannot duplicate an existing number. Now select a PM type and PM frequency from the remaining drop-down boxes.

4. You can now build the PM group in the order that you want the work done. Use the Add button to create the list of structures, and use the Change and Delete buttons to edit the contents and sequence of the list.
Steps to using the sequenced pm schedules

Once the groups have been set up, you can put the whole thing to work by using the sequenced pm reports to dispatch crews.

**NOTE:** This section requires knowledge and use of the Reports Catalog. If you have not done so yet, please consult Chapter 5, “Reports Guide” for instructions before continuing here. Or, if you like to tempt fate, you can just proceed...

1. Click the “Report Catalog” button on the Main Menu. The Report Catalog menu will appear.

2. From the list of report categories on the left side of the screen, scroll down to the bottom where you will see the categories "Prev Maintenance Scheduled - sequenced" and "Prev Maintenance Done - sequenced".

**NOTE:** The sequenced reports in the Report Catalog are clones of the non-sequenced versions with the exception that group and sequence ID’s are added and the sort order is determined by the group and sequence ID’s.

3. Select "Prev Maintenance Scheduled - sequenced". The list of sequenced pm reports will appear on the right-hand side of the screen.

![Figure 4-86. OASIS Report Catalog Showing Sequenced Reports](image-url)
4 Use the Report Criteria Wizard to open the criteria setting screen. Select "Add" to add additional criteria. The example below shows the addition of PM Group "MH1" to the criteria.

**Figure 4-87. Report Criteria Wizard Showing PM Group Selection**
5 Finish the Wizard and run the report, which will be given to the maintenance crew to be used in the field. Notice that the structures are listed in the sequential order of the pm group.

![Figure 4-88. PM Sequential Report Example](image-url)
Steps to updating pm records using crew sheet data.

This section describes the steps used to update the pm schedule using data that has been written on the sequential pm reports by the crews. This process is different from doing the regular updating of pm results because sequenced pm groups can be updated all at once instead of one-at-a-time!

1. Click the “Advanced Features” button on the Main Menu. The “Advanced Features” menu will appear.

![Figure 4-89. OASIS Main Menu](image)

2. Click the “Edit PM Group History” button on the menu.

![Figure 4-90. Advanced Features Menu](image)
Sequence and Re-sequence Preventive Maintenance

3. The PM Activity screen will appear. Select the group you want to update from the drop-down box in the upper right-hand corner.

![Figure 4-91. PM Activity Update Screen](image)

4. All of the pm’s that belong to the group are displayed in list format. You can individually update the "Date Done" for each record in the list, or you can click the button at the bottom of screen marked "Apply a Single Date Done to All Fields In This Group". The pop-up window that appears will allow you to update all the records in the list at one time! Very handy!

![Figure 4-92. PM Activity Update List](image)
Set the Default Codes

Description

You can set default entries for five of the most commonly used fields: City, State, Manhole Structure Type, Main Line Structure Type, andCatchbasin/Stormdrain Structure Type.

NOTE: The “State” field is included to accommodate future mailing enhancements to OASIS.

The default entries will be used wherever the data is used in OASIS. For instance, every time you begin building a new main line, the default main line type will be entered into the form automatically.

Before You Begin

• Deciding what codes to use is your key operational decision.
• Important! If you have used a default code in the database, and then later change it, only future use of the code will be affected. Any of the old codes that are in the database will have to be changed manually.

Steps

1. Go to the bottom of the OASIS Main Menu and click the “Program Administration” button to bring up the Administration Form.

Figure 4-93. OASIS Main Menu
2. At the top right side of the Admin form are the fields for setting the defaults.

Set the defaults by making selections from the drop-down boxes and by typing the State code entry.

Figure 4-94. OASIS Administration Form

That’s all there is to do to set the default codes.
Show Records in Datasheet View

Description

OASIS has two ways of portraying structure data on the screen: one record at a time, called “Form View” and in a spreadsheet-style arrangement called the “Datasheet View”.

Before You Begin

Make sure you have clicked the “Show All” button or only one record will appear in the Datasheet View (!)

Steps

- The Form View is the default view of the database records. It is the view you normally see, as pictured below.

![Figure 4-95. Form View of an OASIS structure record](image)

---

Chapter 4: Cookbook

1/8/03 22:02

Page 4-115
• However, OASIS can also portray the data in a “spreadsheet” view with rows and columns, as shown below.

![Figure 4-96. Datasheet View of OASIS structure records](Image)

1 To switch to Datasheet View from Form View:
   • Make sure you have clicked the “Show All” button or only one record will appear in the Datasheet View (!)
   • Click the “View” pull-down menu at the top of the screen and choose “Datasheet View”.
     OR
   • Click the “Datasheet View” icon on the toolbar at the top of the screen (it’s next to the printer icon - see illustration above).

2 To switch back to Form View from Datasheet View:
   • Click the “View” pull-down menu at the top of the screen and choose “Form View”.
     OR
   • Click the “Form View” icon on the toolbar at the top of the screen (it’s just to the left of the Datasheet View icon - see illustration above).

You can edit data in Datasheet View the same as in Form View, and you can sort and filter data the same as in the Form View. The handy thing about sorting and filtering in the Datasheet View is that you can see many records all at once instead of one-at-a-time like the Form View. That makes it easier to determine if you’ve sorted and/or filtered the data the way you intended!

See "Filter Records" on page 4-66 for specific instructions.
Sort Records

Description

You can sort records by selecting values in a form, subform, or datasheet. This is very convenient because sorting is normally done only in reports, so the best part is that you can do it all from inside a regular OASIS form, like the main line form or datasheet.

Before You Begin

No special issues.

Steps

1. In a field on a form, subform, or datasheet, click the field you want to use for sorting records.

2. Select the value by clicking it with the mouse, and then do one of the following:

   To sort in ascending order:
   
   • Click the “Records” pull-down menu at the top of the screen. On the menu, click “Sort Ascending”.
   
   OR
   
   • Click the “Sort Ascending” icon on the toolbar. (It’s the one with the “A” over the “Z” and a downward-pointing arrow.)

   To sort in descending order:

   • Click the “Records” pull-down menu at the top of the screen. On the menu, click “Sort Descending”.
   
   OR
   
   • Click the “Sort Descending” icon on the toolbar. (It’s the one with the “Z” over the “A” and a downward-pointing arrow.)
Sort Records

NOTE: In a form, you can sort on only one field at a time; in a datasheet, you can select two or more adjacent columns at the same time, and then sort them. Microsoft Access sorts records starting with the leftmost selected column. When you save the form or datasheet, Microsoft Access saves the sort order.

3 To remove a sort:

- Click the “Records” pull-down menu at the top of the screen. On the menu, click “Remove Filter/Sort"
OR
- Click the “Remove Filter/Sort” icon on the toolbar. (It’s the one with the funnel and the red “X” going over it.)

NOTE:

- Sort orders are saved with a table, query, or form.
- Microsoft Access will sort on up to 255 characters, in one or more fields, in the results of a query or advanced filter.
- Use ascending order to sort dates and times from earlier to later. Use descending order to sort from later to earlier.
- Numbers stored in Text fields are sorted as strings of characters, not numeric values. Therefore, to sort them in numeric order, all text strings must be the same length with shorter numbers padded with leading zeros. For example, the result of an
ascending sort of the text strings “1”, “2”, “11”, and “22” will be “1”, “11”, “2”, “22”. You must pad the single-digit numbers with a leading zero for the strings to be sorted properly: “01”, “02”, “11”, “22”.

- When you sort a field in ascending order, any records in which that field is blank (contains a Null value) are listed first. If a field contains records with both Null values and zero-length strings, the fields with null values appear first in the sort order, immediately followed by the zero-length strings.
- You can't sort a field whose data type is Memo.
Tips and Tricks and Keyboard Shortcuts

Tips and Tricks

1. All **date fields** in OASIS have a built-in calendar which you can activate by double-clicking the field. The calendar will pop-up in the middle of the screen and you can browse through the months and years to select a date to be entered into the field. Or you can click on the "Today" button to have today’s date entered.

2. There is a toolbar that is common to all OASIS forms. On the right side of the toolbar is a button marked "**Generic WO**". You can use the button to open a new, blank work order anytime one is needed. The purpose of the button is to give you quick access to work orders in case you’re using some other part of OASIS when the phone rings and you’ve got a service complaint to record.

3. If you are entering the name of a street into a form and discover that the **street name** had never been entered into the street name lookup table, just double-click the street name field and you will get a pop-up window suitable for entering the new street name.

Keyboard Shortcuts

1. The word that appears on each command button in OASIS always has one of its letters underlined. This is a clue to the user that the button has a **keyboard shortcut**, and they can cause that button to be "clicked" from anywhere in the form just by holding down the "ALT" key on their keyboard and typing the letter that corresponds to the letter on the command button.

   For instance, on most forms, the "Print" command button has the letter "P" underlined. You can cause the form to be printed by holding down the "ALT" key and then pressing the "P" key.

2. Each structure form has five tabs, starting with the one labeled "Location", followed by "Engineering", etc.

   If you want to move quickly form one tab to another, press-and-hold the "Control" key on your keyboard, and then press one of the number keys - from 1 through 5. You will go automatically to the tab that matches your selection. For instance, pressing the "3" key will take you to the third tab on the form.
Tips and Tricks and Keyboard Shortcuts, continued

(Currently left blank intentionally)
Update Inspection Records From an Inspection List

For a general discussion related to this topic, see "Basic Inspection Management" on page 3-12 in the “OASIS Operating Guide”.

Description

This command is used to find and display lists of scheduled inspections so you can update information brought in by field crews - without using the Report Catalog.

Before You Begin

You need to have the list (printed before) that was given to the field crew and returned by them with marked-up information

Steps

1. Click the “Advanced Features” button on the Main Menu. The “Advanced Features” menu will appear.

![Figure 4-98. OASIS Main Menu](image-url)
2. Click the “Search Scheduled Inspections / Create Inspection Work Orders” button on the menu. The search screen will appear.

![Advanced Features Menu](image1)

**Figure 4-99. Advanced Features Menu**

![Search Inspections Form](image2)

**Figure 4-100. Search Inspections Form**

3. Enter criteria that matches the criteria that appears on the printed form.
4. Click the button at the bottom of screen marked “Send a Preview Report To Screen”. A list will appear that matches the printed report.

5. If the list is satisfactory, proceed to the next step. If you don’t like the results, return to the criteria-setting screen by clicking the button marked “Return To Criteria Selection”.

You will be returned to the selection screen where you can change, remove, or add criteria until the printed form and the screen list are a match.

6. If the list is satisfactory, you are ready to update the records. For each record, click the “Go To Structure” on the right-hand side of each record in the list. OASIS will jump you to the structure record where you can enter inspection information on the “Inspection” and “Condition” tabs.

You may also be prompted to have OASIS automatically create a confirming work order that will become part of the inspection history of the structure. See "Create Work Orders To Maintain Inspection and Preventive Maintenance Histories" on page 4-45.

You can also click the “Inspection Details” button at the bottom of each structure form to enter specific defect information. After entering the inspection data, click “Exit” at the bottom.

7. When you are done with the entire process, click “Exit” at the bottom of the list form to return to the “Advanced Features” menu.

This completes the instruction section for updating inspection records from an inspection list.
Update Preventive Maintenance Records From a PM List

For a general discussion related to this topic, see "Basic Preventive Maintenance Management" on page 3-7 in the “OASIS Operating Guide”.

Description

This command is used to find and display lists of scheduled pm’s so you can update information brought in by field crews - without using the Report Catalog.

Before You Begin

You need to have the list (printed before) that was given to the field crew and returned by them with marked-up information.

Steps

1. Click the “Advanced Features” button on the Main Menu. The “Advanced Features” menu will appear.

![Figure 4-102. OASIS Main Menu](image-url)
2. Click the “Search Scheduled PM’s / Create PM Work Orders” button on the menu. The search screen will appear.

![Advanced Features Menu](image1)

**Figure 4-103. Advanced Features Menu**

![Search PM's Form](image2)

**Figure 4-104. Search PM’s Form**

3. Enter criteria that matches the criteria that appears on the printed form.
4 Click the button at the bottom of screen marked “Send a Preview Report To Screen” A list will appear that matches the printed report.

Figure 4-105. Find PM’s Results List With Criteria Set to Main Lines Group / Sanitary Sewers

5 If you the list is satisfactory, proceed to the next step. If you don’t like the results, return to the criteria-setting screen by clicking the button marked “Return To Criteria Selection”.

You will be returned to the selection screen where you can change, remove, or add criteria until the printed form and the screen list are a match.

6 If the list is satisfactory, you are ready to update the records. For each record, update the fields with new information such as workload, crew hours, crew ID, notes, and “Date Done”, etc.

You may also be prompted to have OASIS automatically create a confirming work order that will become part of the pm history of the structure. See "Customize the OASIS Lookup Tables" on page 4-48.

7 If inspection information was gathered at the same time the pm was done, click the “Go To Structure” on the right-hand side of each record in the list. OASIS will jump you to the structure record where you can enter inspection information on the “Inspection” and “Condition” tabs. You can also click the “Inspection Details” button at the bottom of each structure form to enter specific defect information. After entering the inspection data, click “Exit” at the bottom.

8 When you are done with the entire process, click “Exit” at the bottom of the list form to return to the “Advanced Features” menu.

This completes the instruction section for updating PM records from a PM list.
Use the “Show All” command

The “Show All” button loads all the records from the database into memory, something that is not required when using the “Find” or “Search” commands.

Use the standard Access navigation buttons to go forward and backward through the database. (See the illustration below for the location of the navigation buttons.)

NOTE: Why have a “Show All” button in the first place? Glad you asked. By default, OASIS loads only the first record in a table when a form (not a menu) comes up on the screen. This is because loading all the records from a table into a form can be a very time-consuming process and usually you will be dealing with only one record at a time.

View a Schematic Drawing of a Main Line

- On the Main Line Structure Form, you can click the “Go To Schematic” button to bring up a simple drawing that depicts many of the basic statistics about the main line, as shown below.

![Figure 4-106. Main Line Schematic Drawing](Image)

- The schematic can be printed for distribution to field crews, etc. by clicking the “Print” button.
Chapter 5
Reports Guide

Organization of this guide

This guide is designed for the user who wants to run the reports in the built-in OASIS report manager, called the OASIS “Report Catalog”. The Report Catalog contains hundreds of pre-constructed reports that you can use “as-is”, or you can set report parameters to limit, sort, group, and summarize specific data you are interested in.

- This guide, which contains instructions for configuring and running reports, is separate from Chapter 4, “Cookbook” because there are some people whose interest in using OASIS is limited to data reporting and extraction. Typical among this type of user are high-level governmental managers such as agency supervisors and managers, consultants, elected representatives, and regulatory officials.

- The important thing to remember is to **start running reports early and often**. Reports are a very good way to detect data-entry errors, and are also the only accurate devices for measuring global progress in building your database.

Before you begin

- You should be familiar and comfortable with the Windows operating system including mouse usage.

- All of the examples in Reports Guide chapter use the OASIS sample data. If you don’t like something about your practice reports and you just want to start over fresh, you can replace the sample data with a fresh copy. See "**Delete the OASIS Sample Data**" on page 4-55.

- You should know in advance as much as possible about what it is that you want to report on. This sounds very elementary - almost simplistic - but with the huge number of parameters that can be set by the user, it is wise to think closely about your business purpose before pursuing a specific report.

- Running OASIS reports, while not complicated, is not as carefree as browsing through forms. This is because there are several steps that need to be done - in sequence - to generate a report, so attention should be paid to each step, especially for the complex reports.

- You are not limited to using just the OASIS Report Catalog. OASIS has been designed to allow external report writers - such as Crystal Reports - free access to the data for building reports.
Overview

- The reports are divided into 16 general categories, shown in the table below:

  **NOTE:** The list of categories is shown as they appear in the Report Catalog and are (obviously) not sorted alphabetically. Instead they are arranged with the most popular categories at the top and the less frequently used towards the bottom.

<table>
<thead>
<tr>
<th>Table of OASIS Report Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Manhole Reports</td>
</tr>
<tr>
<td>Basic Main Line Reports</td>
</tr>
<tr>
<td>System-wide Reports</td>
</tr>
<tr>
<td>Inspection Schedule</td>
</tr>
<tr>
<td>Inspections Done</td>
</tr>
<tr>
<td>Prev Maintenance Schedule</td>
</tr>
<tr>
<td>Prev Maintenance Done</td>
</tr>
<tr>
<td>Work Orders: Basic Info</td>
</tr>
<tr>
<td>Work Orders: Problem List</td>
</tr>
<tr>
<td>Work Orders: Production Diary</td>
</tr>
<tr>
<td>Miscellaneous</td>
</tr>
<tr>
<td>Basic Service Lateral Reports</td>
</tr>
<tr>
<td>Basic Catchbasin/Stormdrain Reports</td>
</tr>
<tr>
<td>Basic Septic Tank Reports</td>
</tr>
<tr>
<td>Prev Maintenance Schedule - sequenced</td>
</tr>
<tr>
<td>Prev Maintenance Done - sequenced</td>
</tr>
</tbody>
</table>

- Figure 5-1. List of Report Categories

- Within each category there are many reports specific to that category.

  For example, as of the publication date of this guide, there are 11 different reports in the “Basic Manhole Reports” category and 14 different reports in the “Basic Main Line Reports” category.
Opening the Report Catalog

1. Click the "Report Catalog" button on the Main Menu. The Report Catalog will open on the screen.

   ![Figure 5-2. OASIS Main Menu](image)

2. On the left-side of the opening screen is the list of OASIS report categories. This matches the list shown on the previous page. Examine the length of the list using the scrolling arrows.

   ![Figure 5-3. Report Catalog Opening Screen](image)
Select a Report Category

1. Execute the "Step 1" instructions shown at the top of the list: "Select the category that contains the report you want to run." Start by clicking the Basic Manhole Reports category.

2. The appearance of the Catalog changes dramatically as OASIS fills in the screen with information about the Basic Manhole Reports category:

   - All the reports available in this category, shown on the right side, with scrolling arrows to traverse the list.
   - The name of the currently selected report, in this case "MH01: Manhole Inventory - Date Built - not grouped". (Selected by default because it is the first report in the list.)
   - The current criteria for the selected report, shown in the big yellow box.
   - The sort field, sort direction, and the date it was last printed, shown in the little yellow boxes.
   - Three buttons: Report Criteria Wizard, Click Here To Run Report, and Print List of Reports. (Use this last button to print the report list anytime you wish.)

3. Leave the Wizard button alone for now.
Run a Report

1. Click the Run Report button to run the MH01 report with the current criteria.

   (Don’t worry about whether your printer is on, has paper in it, etc. because the report is going to the screen, not to your printer.)

![OASIS Structure Data Report](image)

   **Figure 5-5. Report Catalog After Running MH01: Manhole Inventory Report**

2. OASIS runs the report and outputs it to the screen. All that is visible is the upper left-hand corner of the report, but don’t panic.
Zooming the Screen Size of a Report

1. Do you see the cursor in the middle of the picture shown on the previous page? It has changed to a magnifying glass with a "minus" sign inside it.

2. Move your mouse into the middle of your screen until it turns into a magnifying glass. Then just click the mouse once. The report reduces itself to fill the screen with a complete view of it, and the magnifying glass now has a "plus" sign in it.

Throughout the Report Catalog, you can zoom around reports with the mouse by clicking back and forth between "plus" and "minus".

Figure 5-6. MH01: Manhole Inventory Report Reduced To Full Size View

Features of an OASIS Report

Some features and elements worth noting about the report are:

- The report name - which was shown on the Catalog screen - has been reproduced at the top of the report.
• The criteria for the report - which was shown on the Catalog screen in the big yellow box - has been reproduced at the top of the report.

You will find the listing of the report criteria to very valuable when you start setting your own criteria - it will help you remember what you were trying to report on in the first place!

• The sort field and sort direction - which were shown on the Catalog screen in the little yellow boxes - are printed on the left side, below the report criteria.

• The date field included in this report is printed on the right side, below the report criteria.

• The contents of the report run to the bottom of the page.

• At the bottom is the page number, total count of pages in the report, and the date/time the report was produced.

Paging Through a Report

1. There are three pages in the sample MH01 report. Go through the report by using the Page Down and Page Up keys on your keyboard.

NOTE: The report must be reduced to fit onto the screen in order to page through a report.

Figure 5-7. MH01: Manhole Inventory Report - Last Page
When you get to the end of the report, the last page displays summary statistics about the report such as "Grand Total Number of Records", "Average Age", "Oldest Age", etc.

**Printing a Report**

- Printing a report is as easy as clicking the "Print" button in the toolbar at the top of the screen. It will bring up the standard Windows print dialog box where you set printing options such as the number of pages to print, etc.
- There is also toolbar button with an icon of a printer on it. The button is a "speed-print" shortcut. It immediately prints all the pages available for printing and is very handy when speed is of the essence.
  However, you can be in for quite a surprise when you’ve assembled a long report, etc. so be cautious when using the button.

**Exporting a Report**

You can export the contents of a report to a number of popular formats such as Microsoft Excel or in Rich Text Format (RTF) that word processors can use.

1. Click the "Output To File" button at the top of the screen.
2. Choose one of the file formats from the list box that appears.
3. You will be prompted for a location to put the exported file, and then OASIS will export the report.

**Closing a Report**

1. Click the "Close" button at the top of the screen.

   You will be returned to the Report Catalog opening screen.

**Report Names**

You should try out some or all of the other reports in this category and you should also take a look at the reports in the other categories.

Note that all the reports in a given category begin with the same prefix, e.g., the manhole reports all begin with "MH". This naming convention helps you keep track of the reports.
Using the Report Criteria Wizard

1. Begin by selecting report "MH01 - Manhole Inventory" from the "Basic Manhole Reports" category, if you haven’t already done so.


![Image of Report Wizard](image)

Figure 5-8. Report Wizard Showing Date Criteria Page

Setting Date Criteria in the Wizard

1. The first page of the Wizard is where you set date/time related criteria.

   - The report - as with most all of the reports in OASIS - is configured with a pre-selected date field that you can set the criteria for.

   **NOTE:** The choice of which date field to use is not changeable by end-users (sorry!), but the date in each report was chosen carefully as the best date for the report.
Setting Date Criteria in the Wizard

- In this report, the pre-selected date field is the "Date Built" field, as shown.
- Also, note that the default date range here - and throughout the OASIS reports - is "All dates".

2. Click the drop-down box to select a date range.

NOTE: The Wizard’s date range offerings are the same for all reports.

Figure 5-9. Report Wizard Showing Date Criteria Page
3 Click on "Specific Dates". The Wizard adds several items to the screen:

- **Beginning Date** and **Ending Date** were added to allow you to specify the dates.
The two fields automatically contain the OASIS default date range of 1700 to 2200 AD.
- You can reset the fields to the default date range by clicking the large command button marked: "Click here to use the default date range of 1700 to 2199".
  (Clicking this date range has the net effect of including all dates, although you could just as easily select "Contains any date or date is blank" from the range selections.)

4 Click in the "From" field and type **01/01/1975**.

5 Click in the "To" field and type: **01/01/1985**.
  This sets a 10 year range for the "Date Built" field to match when the report runs.

6 Click the "Next" button (at the bottom right of the wizard page) four times until the "Finish" button (which is dimmed/grayish-looking) becomes active (un-dimmed) with blue lettering.
  Take a moment to look at each of the wizard pages as you click the "Next" button, but don’t change anything for now.
7 Click the "Finish" button. The Wizard will close and the new criteria will appear in the big yellow box.

8 Click the "Run Report" button to see how the report turned out.

You will notice that the report is now only two pages long with 11 records (instead of the original three pages and 15 records in the first report) because four of the manhole records did not meet the "Date Built" range criteria.

9 Print the report if you wish (compare it to the original!) and then close it to return to the Wizard opening screen.
Setting Field Criteria in the Wizard

1. From the Report Catalog's opening screen, click the Report Criteria Wizard button. The Wizard's "Date Criteria" page appears with the current criteria displayed.

2. Click the "Next" button one time only. The Wizard's "Field Criteria" page appears.

   - The date criteria you previously set is the first item in the set-up box. This is not changeable here - only on the "Date Criteria" page.
   - The second item indicates that the report is limited to the "Manhole" structure group.

![Figure 5-11. Report Wizard Showing the "Field Criteria" Page](image)
3 Click the second item. ("Structure Group = MH Manholes") It will become highlighted in black.

4 The Wizard then activates several boxes on the screen with highlights in each one that are part of the "Structure Group = MH Manholes" criteria, as shown in the illustration below.

![Figure 5-12. Report Wizard Showing the "Field Criteria" Page](image-url)
5 Click the "Add" button in the upper right corner of the wizard page.

- The Wizard (temporarily!) duplicates the date criteria item into the third position on the criteria list.
- The fields that were highlighted before (in the three lower boxes) lose their highlighting and/or contents.

Figure 5-13. Report Wizard Showing the "Field Criteria" Page After Clicking "Add"

6 Use your mouse to scroll through the left-hand box, which is a list of fields that can be used to restrict the report. (This list is changes, depending on which report you’re running.)
7. Click "Material Type" in the list. The third item in the criteria list above now changes from the dates to "Material Type =".

![Figure 5-14. Report Wizard Showing the "Field Criteria" Page With "Material Type" Added](image)

8. We'll skip the center box because the Wizard has automatically inserted the "=" sign because it is the default value in criteria selection.

However, you can see the broad range of operators (known as Boolean operators) available to restrict reports when you are working on your own.
9 Click the down arrow on the drop-down box at the right-hand side. OASIS will display the contents of the "Material Type" lookup table.

![Image of Report Wizard Showing the "Field Criteria" Page With "Material Types" lookup table]

Figure 5-15. Report Wizard Showing the "Field Criteria" Page With "Material Types" lookup table

10 Select "BRK" (brick) from the list. The Wizard updates the criteria list with your selection to reflect the fact that you want to see only brick manholes.

**NOTE:** When you are later building your own reports, multiple lines of criteria can be added and removed as required to create the correct report.
Setting the Sort Order in the Wizard

1. Click the "Next" button one time only. The Wizard's "Sorting Criteria" page appears.

� Figure 5-16. Report Wizard Showing the "Sorting Criteria" Page

2. On the right-hand side of the page is the "Sort Selection" drop-down box and the "Sort Direction" box.

3. Use your mouse to examine the list of fields that can be sorted on, but for now leave the sort on the "Structure ID" field, in ascending order.
Hiding Report Details with the Wizard

1. Click the "Next" button one time only. The Wizard’s "Detail Suppression" page appears.

   ![Image of the Report Wizard showing the "Detail Suppression" page]

   Figure 5-17. Report Wizard Showing the "Detail Suppression" Page

This page in the Wizard serves just one function, to allow the suppression of detail records in OASIS reports.

Suppressing details is not a fascist political activity. It means that the report does not display (or print) each individual record that is a part of the report. For example, a detail record is the four lines of description that appears for each manhole in the MH01 report.

Now, if you wanted to count all the manholes in your agency’s system, there is no need to print the four-line description of each manhole just to get a count of the total.

Instead, you can hide the details and just get the summary statistics from the end of the report. That way you don’t have to print dozens/hundreds/thousands of pages to get the result you want. Instead you just get the end page(s). That’s what hiding/suppressing the details means.

2. For now, leave the checkbox unchecked but use it whenever you have long reports where all you want is statistics.
Setting the Report Output with the Wizard

1. Click the "Next" button. The Wizard's "Output Choices" page appears.

   - You are offered three choices for outputting the report. The default is to the screen, where you can preview it before printing it, thus extending your printer’s life span and cutting down on paper usage.
   - You can also set this value for the report to go directly to the printer without a preview or to a designated file.

   If you designate a file, you will be prompted for a filename and for the location to put the file when the report is run. You need to set the filename extension correctly when you name the file (XLS for Excel, TXT for text, RTF for word processing, and HTM for web pages) because you will be prompted for the format later when the report runs, and the extension must match the output format or you won’t be able to open the file.(!)

2. For now, just leave the output as going to the screen.

3. Click the "Finish" button. The Wizard will close and the new criteria appears in the big yellow box.

Figure 5-18. Report Wizard Showing the "Output Choices" Page
4 Click the "Run Report" button to see how the report turned out.

You will notice that the report is now just barely two pages long with only 6 records because five of the manholes did not meet the (additional) criteria of being brick.

5 Print the report if you wish (compare it to the original!) and then close it to return to the Report Catalog opening screen.
Removing Criteria with the Wizard

Assuming you are still using report MH01 with the criteria described earlier in the examples:

1. From the Report Catalog’s opening screen, click the Report Criteria Wizard button. The Wizard’s "Date Criteria" page appears.

2. From the "Select dates" drop-down box, choose "Contains Any Date or Date Is Blank". This removes all date restriction from the report.

3. Click the "Next" button one time only. The Wizard’s "Field Criteria" page appears.

4. Click the third item in the criteria list: "Material Type = BRK Brick".

5. Click the "Remove" button on the right-hand side of the Wizard page. The brick criteria line is removed. (You can ignore the second line, which still has the word "And" hanging on the end. The Wizard will take care of that.

6. Click the "Next" button three times, past the sorting and detail suppression to the output screen where you can click "Finish".

7. The result of all these changes is that the report no longer has restrictive criteria, and if you ran it, all of the records would be reported.

**NOTE:** For those of you who are perpetually tempted by Pandora’s Box - and know the results of trifling with fate - you could also remove the "Structure Group = MH" criteria, but then OASIS would report every structure in the database including main lines, service laterals, etc, and this report (MH01) is formatted only for manholes. That’s why there’s all the different categories!
Grouping Data with the Wizard

1. From the Report Catalog's opening screen, select report "MH02: Manhole Inventory - Date Built - grouped by 1 value" from the right-hand list.

2. The appearance of the Catalog changes slightly as OASIS adds a third small yellow box labeled "1st Grouping" with the term "Drainage District" appearing inside it.

3. Click the "Run Report" button to run the report, and then compare it to the first report you ran.

Figure 5-19. Report Showing Grouping Features

- There are 15 records, the same as the first, but they are now grouped by drainage district. (The two drainage districts in the OASIS sample database are "LAKE" and the "SEA") .
- The title for the report now includes the term "grouped by 1 value".
- A description of the grouping has been added to the sort field and sort direction information.
- There is statistical information for each group. A count of records and percentage of records appear at the beginning of the grouping, not the end. Other statistical data - such as a sub-total cost for the group - still appear at the end of the group.
- Grand totals are at the end of the report, as would be expected.
4 Close the report (print it first, if possible, for later comparison) and return to the opening screen.

5 Click the Report Criteria Wizard button. The Wizard’s "Date Criteria" page appears.

6 Click the "Next" button twice. The Wizard’s "Grouping and Sorting Criteria" page appears, looking very much like the "Sorting Criteria" page, but with the addition of the grouping feature.

7 Click on the Grouping drop-down box to display the list of choices for grouping this report.

8 Select "Neighborhood".

9 Click the "Next" button twice to take you to the Output screen.

10 Click the "Finish" button. The Wizard will close and the (one) changed criteria will appear in the little yellow box as "Neighborhood".

11 Click the "Run Report" button to see how the report turned out.

12 You will see that there are still 15 records total, but now the distribution is different because the grouping is by "Neighborhood" rather than "Drainage District".
After closing the report, take a moment to again examine the lists of reports in the "Basic Manhole Reports" category. (You have already run reports "MH01" and "MH02".)

Note report "MH03: Manhole Inventory - Date Built - grouped by 2 values". This report and similar ones in other categories have the ability to group by two values.

For example you could run a main line report that would group the records first by "Material Type" and within material type have them grouped by "Size". As you can well imagine, these kinds of reports can be very powerful!
Setting the Join Criteria With the Wizard

Below is an illustration of one of the manhole reports you have run, showing two criteria, Structure Group and Material Type, plus the Date Built field.

Figure 5-21. Report Wizard Showing the Join Criteria Options

Note that the criteria is joined with the term "AND". This has been determined by the selection of the "AND" button on the right-hand side of the Wizard. The alternate choice is the use of the term "OR" but the possibilities are rather limited because of several big problems with "OR".

Problem #1 with "OR" is that it is less exclusive than "AND" which may allow some records to be included in the report that were not intended. However, there are some cases where using "OR" is imperative.

Problem #2 is a structural limitation in OASIS (at least in the current version) that requires you to use either "AND" or "OR" but not both at the same time. This makes it difficult to do reports using "OR" that are set up for only one structure group, like manholes, because the structure group would always require an "AND" after it to keep the report restricted to the group.
Chapter 5: Reports Guide

Advanced Usage of the Report Catalog

Advanced report usage is more a function of just using the catalog and practicing with the reports than it is learning more commands. By the time you’ve reached this page, you’ve been exposed to all the report commands available and you can use them universally across the entire spectrum of the catalog.

What is most useful is to try different combinations of selection criteria on different reports, and of course, seeing reports using your agency’s own data will be professionally very satisfying.

If very complex reports are required, or you need to do graphing, it may be worthwhile to implement an external report writer such as Crystal Reports or Microsoft Access to handle these types of jobs.
Organization of this guide

This guide is designed for the computer technician or consultant who will benefit from an in-depth discussion of computer-related issues such as installation, configuration, LAN/WAN environments, database maintenance, external data access, and data definitions.

Before you begin

- You must be very familiar with the Windows 95/98/NT/2000/XP 32-bit operating system environment.
- The description of the OASIS files (immediately below) is shown first because the files are frequently referenced in the other parts of this chapter. Please take a minute to review the file descriptions before proceeding.

OASIS Files

There are five critical files associated with OASIS.

NOTE: The management of these files is automatic during installation.

1. OASIS.MDE is the main program file. It contains code instructions and reports but no collection system data. A copy of it must reside on each computer running the program. This file is only updated when an OASIS revision is released.

2. OASISBE.MDB is the main data file. (The “BE” stands for the “Back End” data storage model recommended by Microsoft.) It contains all the collection system data for the agency including lookup tables. It has no instruction code in it. It can reside on the same computer where OASIS.MDE resides but (important!) it can also reside on a network server and be shared by multiple workstations, each running OASIS.MDE. There are two copies of OASISBE installed, one is for agency data and the other is a sample database for learning purposes.

The OASISBE.MDB file can be opened using other computer programs. For more details, see "External Access to OASIS Data" on page A-5.
NOTE: One of the irritations built into Access (all versions of Access!) is that reports must be kept in the MDE file being run at the user’s workstation, in this case the OASIS.MDE. In other words, reports can’t be stored in (and shared at) the OASISBE.MDB file, which would be located on a network server in a multi-user environment.

The obvious limitation is that report parameters may vary from one user’s workstation to the next instead of being shared (conveniently) at a network server.

3 OASISID.MDB is a small encrypted file that contains the identification of the agency using the particular copy of OASIS.

NOTE: The OASISID.MDB that is issued with the trialware version of OASIS contains an agency ID called “OASIS Trialware Version”.

4 OASISRC.MDB is a support file that contains report parameters defined by the user. The “RC” stands for “Report Catalog”, although this file is a catalog of report parameters, not reports. The reports themselves are all stored inside OASIS.MDE.

5 OASIS.MDW is a support file that contains the security profile for the program. There are no end-user management requirements for this file.

The OASIS installation program creates three folders.

The first is a folder that contains the agency data. This folder is named \OASIS. (The path to this folder varies depends on the user’s choice at the time of installation. However, the default is C:\Program Files\OASIS)

The second folder contains a sample database and is beneath the first folder. It is named \OASIS\DEMODATA. The location of this folder must be directly beneath the first folder, for programmatic reasons.

The third folder contains a fresh copy of the sample database. It is name \OASIS\DEMODATA\FRESH. The location of this folder must be directly beneath the second folder, for programmatic reasons.

The user has the option (using the "Program Administration" screen) to refresh the sample database. The refreshing is done internally by OASIS - there is no use of the Windows File Explorer required. However, the relative positioning of the folders is critical, which is why the cautionary remarks appear immediately above.
Using OASIS with Microsoft Access Already Installed On Your Computer

• Although OASIS is a Microsoft Access database, you are not required to have a separately purchased copy of Access on your computer in order to use OASIS. This is because the necessary files to run the program (called "runtime files") are installed automatically (and legally) by the installation program.

• If you already have Access on your computer (any version - Access 97/2000/2002), you do not have to remove it or do anything else prior to installing OASIS. The installation program will leave your Access files undisturbed because a separate set of the runtime files is placed on the hard drive in a dedicated subdirectory and the Windows registry is updated with separate entries for the runtime files so your regular Access registry keys are not changed or corrupted.

   If you decide to uninstall OASIS, the automatic uninstaller will remove only the Access runtime files and the associated registry keys installed by OASIS. It will not disturb the files, keys, and settings of your regular version of Access. For more details, see "Removing / Uninstalling OASIS" on page A-7.

• The default Access security file (SYSTEM.MDW) is bypassed (and left undisturbed) by OASIS when the program starts because the start-up command line options for OASIS call a separate file named OASIS.MDW. You can examine the start-up options by looking at the properties of the OASIS icon on the user’s desktop. Don’t modify them, just look!

• You can use a separately installed copy of Access to open, examine, and report on the OASIS data, which is stored in the file named "OASISBE.MDB". However, you should pay attention to all the precautions outlined later in this chapter regarding external accessing. For more details, see "External Access to OASIS Data" on page A-5.

OASIS Installation Details

1. **If you’re working from the web:** Download and run “OASISNewInstallationxxx.exe” from the sewers.com website or elsewhere. (There are some wastewater-oriented websites out there that have mirror copies of the OASIS file.) The file name includes the OASIS version, e.g. “OASISNewInstallation706.exe” is version 7.06 of the program. The downloaded file - which is about 18 mb in size - includes an Adobe PDF version of this OASIS manual.

   **If you’re working from the OASIS CD:** There is a self-executing presentation on the CD. Follow the instructions to trigger the installation.

2. Run the file installation program as prompted. It’s a straight-forward installation much like other Windows program installations.

   **NOTE:** If you’re going to run OASIS on a LAN or WAN, first see the section below labeled “Network Installations”.

3. The installation program will install its files and you will get two desktop shortcuts for running OASIS. The first, which is yellow, runs the OASIS sample database for learning and practicing. The second, which is black, runs the agency database that contains permanent data.
A number of program icons will be added to your Programs Menu under the heading of “OASIS Sewer Database”.

- The first icon is for opening the OASIS “Getting Started Guide”. Opening the documentation requires the Adobe Acrobat Reader to be installed. The Reader can be installed from the OASIS CD or from Adobe’s website (www.adobe.com/products/acrobat/readstep2).
- The second icon is to run the sample database and is labeled “OASIS Sample Database”.
- The third icon is to run the agency database and is labeled “OASIS Sewer Database”.
- The fourth icon is for opening the OASIS ”User Manual”. Opening the documentation requires the Adobe Acrobat Reader - same as above.
- The fifth icon (labeled “Optimize OASIS Data”) is for running the Access “Repair and Compact” cycle on the agency database file (OASISBE.MDB). This is a normal Access maintenance function to remove deleted records and reduce the size of the database file. It should be run at least every week. For further information on the “Repair and Compact” functions, see the documentation that comes with the standard (purchased) version of Access or visit the Microsoft Technical Support website.
- The sixth icon (labeled “Optimize OASIS Program”) is for running the “Repair and Compact” cycle on the OASIS program file (OASIS.MDE). This file will slowly grow in size over a period of time due to the way Access processes its internal code, and the file should be repaired and compacted whenever the file gets above 50 mb in size.
- The seventh icon (labeled “Optimize OASIS Reports”) is for running the “Repair and Compact” cycle on the OASIS reports parameter file (OASISRC.MDB). This file will very slowly grow in size as the user changes report parameters, and the file should be repaired and compacted whenever the file gets above 5 mb in size.

NOTE: Optimization of the sample database files is not normally required.

Start OASIS from the desktop shortcut or the OASIS program group. The first time (and only the first time!) that OASIS runs, it will perform a “table attachment” sequence that connects the OASIS.MDE file (which contains all the program code) with the three associated data files (OASISBE.MDB, OASISID.MDB, and OASISRC.MDB). If you selected the default installation directory (C:\Program Files\OASIS), the attachment sequence will run automatically and silently. However, if you elected to install OASIS in a different directory, the program will prompt you for the location of the files. Find the files, using the File Finder dialog box that will present itself, and double-click on each of the OASIS files as they present themselves in the dialog box.

Using the OASIS program is “Point and click”, all the way. The only unusual command is the button labeled “Show All” that appears at the bottom of the structure inventory forms. Usually, OASIS loads only the first record from the table to avoid the delay associated with loading all records. The “Show All” button forces a dump of all the records from a table into memory for browsing purposes.

The installation for a standalone workstation should be complete at this point.

NOTE: Network installation instructions are furnished separately to users who have purchased multiple end-user licenses as required for network usage.
External Access to OASIS Data

You can use the OASIS data repository file (OASISBE.MDB) as an entrance point to read, add, modify, or delete data in OASIS. Typically this would be done with an external program that can read (and perhaps write) Access files, including ODBC-based programs.

OASISBE.MDB provides a convenient place to hook in external report writers (Crystal Reports, etc.), hydraulic modeling software (Hydra, SWMM, etc.), and GIS/mapping software (ArcView, MapInfo, ArcInfo, Intergraph, Autocad, etc.).

Working Rules for External Access to OASIS Data

1. You access the OASIS data externally simply by having your external program find and open the OASISBE.MDB file. Any external program that is designed to open Microsoft Access files will have no problem “seeing” and opening OASIS data files. External access has been tested and verified on popular programs such as Arcview, ArcInfo, MapInfo, Crystal Reports, etc.

2. It is recommended that you confine access to the OASISBE.MDB file to read-only mode, and avoid adding, modifying, or deleting data.

   There are dozens of error-checking routines built into OASIS to ensure accurate and uncorrupted data when the data is entered through the program’s forms. However, when you add, modify, or delete data directly, you are bypassing all the error-checking routines including the lookup tables, and you are wide-open to data corruption.

   For instance, OASIS has a lookup table that automatically controls the spelling of street names. If you have a mapping program that allows you enter street names directly into OASIS, the names won’t be cross-checked for errors unless you set up error checking yourself in the mapping program!

   Direct data manipulation must be done with care - and at your own risk - because the database can be corrupted with bad data! Any data that is directly entered into the backend database will not be checked for errors unless you build the error-checking into your own external program.

   NOTE: There is one logical exception to the "read-only" recommendation, and that occurs when the an OASIS database is being set up for the first time. See "Importing Initial Data" below for details and instructions.

3. The Microsoft Access security on OASISBE.MDB is essentially non-existent. The permissions are set to allow any default Access user to open and edit the data and the structure of the tables. This was done by granting these permissions to the Access default user ID and Group ID in the security structure.
External Access to OASIS Data

Because the permissions are set to the default group, anyone with a program that can open an Access table will have these permissions. This was done for convenience so that the default SYSTEM.MDW security file could be used, thus avoiding the headaches of the Access Workgroup Administrator program.

As noted, there are no limitations on permissions to modify the structure of the tables in OASISBE.MDB although it is not recommended. However, to view the table structures you will need a full retail version of Access installed on your computer.

Importing Initial Data

When setting up an OASIS database for the first time, there are times when an agency has data stored in some other computer file(s) that should be imported into OASIS rather than hand-typing it in. The most common example is an agency that has a list of their city’s street names that they have stored in some other database or spreadsheet file, or in a GIS mapping program.

The instructions below show you how to import a street name file into OASIS, but the procedure is generic enough to be used when importing any other kind of data into the program. The reason this is true is because the importing procedure is actually not an OASIS function, rather a Microsoft Access function.

For this reason, you will need to have a copy of Microsoft Access running on your computer in order to do an import. Also, you must be familiar with the Access import commands.

NOTE: If you are prompted to convert the OASISBE file to your version, you must answer "No" and restrict Access to just opening - but not converting - the file. Otherwise OASIS won’t run anymore!

1 The target file for the import in OASISBE.mdb. OASISBE mdb contains all the data tables for OASIS. (By contrast, OASIS.mde contains all the code to run the program.)

For further information on the OASISBE.MDB and other files: For more details, see "OASIS Files" on page A-1.

2 Open OASISBE.mdb with Microsoft Access. (No security passwords are required.) Inside OASISBE.mdb, you will find several dozen Access tables listed in alphabetical order.

A large number of them are lookup tables that drive the pulldown combo boxes found on the OASIS forms. The lookup tables all begin with the letters "tblLkUp...."

Hint: Before beginning an import, you might want to open the intended lookup table in design mode (it opens as a read-only file when in design mode) to examine the field descriptions for the length and type of fields in the table. By doing this, you can compare the data in your external source file to be sure everything matches correctly for length, etc.

NOTE: The OASIS field attributes are also listed farther down in this chapter.

3 To import a list of street names, use the Access "Get External Data" command. Depending on the type of source file you have, Access will start up a "wizard" to guide you through the import process. The wizard will ask for the name of the table where you want to store the data.
4 If you are importing a street name file, select "tblLkUpStreetNames" as the target table, and proceed with the wizard. The data will be imported and automatically show up in the street name combo boxes.

5 If the import gets botched up for some reason, just delete all the records in the lookup table and start over.

It is recommended that imports on this scale only be done when an OASIS database is being set up for the first time. Doing similar global imports later (when the database is in use) can have a devastating effect on data integrity, as discussed above. Once an OASIS database is in use, lookup table editing should be done through the OASIS Program Administration screen, accessed from the OASIS Main Menu. It’s slower because it’s being done manually, but the error-checking will be in play.

**Removing / Uninstalling OASIS**

Removing / uninstalling OASIS is accomplished using the Windows "Add/Remove" program.

1 The Add/Remove program is located in the Windows Control Panel. (You can access the Control Panel from the Windows Start Menu, under "Settings".

2 After you start the Add/Remove program, OASIS will be shown in the list of programs installed on your computer.

3 Click on "OASIS" in the list, and then click the "Add/Remove" button next to the list.

4 The OASIS Uninstaller will start automatically and you can follow the simple instructions to complete the removal.
Database Documentation

Table Relationships and Usage

OASIS has a simple internal structure but does not depend on the default Access program tools to define and maintain relationships between tables. Instead, all relationships are defined and maintained directly through the use of Access Basic recordsets and SQL in the program modules.

So, to assist interested parties in understanding the database structure, this section has been included to illustrate the framework of OASIS. The framework is largely informational because the direct manipulation of data from outside the program is neither required nor encouraged, as noted before. However, in the event the user wishes to export all the OASIS data to another program, it is wise to know the table relationships.

**NOTE:** All of the relevant data tables are accessible by opening OASISBE.MDB with a regular copy of Access.

1. There are 17 lookup tables that provide data to picklists throughout the program. The names of the lookup tables all begin with “tblLkUp...”

2. The core table in OASIS is the tblStructures. It contains the data most likely to be accessed externally by GIS and/or hydraulic modeling programs.

   - tblStructures bears almost all the one-to-many relationships.
   - tblStructures contains the records of all the collection system structures.
   - Each structure belongs to one of five structure groups. The five groups are manholes, main lines, service laterals, catchbasins/stormdrains, and septic tanks.
   - Within each group there are structure types. For example, within the manhole group are regular manholes, drop manholes, pressure manholes, etc. Within the main line group are sanitary sewers, storm sewers, force mains, etc.
   - Not all fields in tblStructures are used in every structure record. For example, the structure record of a manhole does not (logically!) use the fields "UpstreamManhole" or "DownstreamManhole". These two field would only be used in a main line record.

   This type of table design (one that contains all the fields necessary for all structure groups, even if some of the fields are not used) was chosen deliberately, to allow external access to the structure records to be simple and easy because all the structure records are in a single file. The alternative would have been the construction of multiple sub-tables for each structure group, with all of them related back to the main structure table. This design is not necessary due to the disk space efficiency with which MS Access handles empty fields, and the relative low cost of hard drive storage.

3. tblStructures has a one-to-many relationship with tblInspectionDetails. Each structure is allowed many details (inspection defects).

4. tblStructures has a one-to-many relationship with tblPM. Each structure is allowed many scheduled preventive maintenance events.
5 tblStructures has a one-to-many relationship with tblWorkOrders. Each structure is allowed many work orders.

6 Work order records can be established without being related to tblStructures. The relationship can be established later, if ever. (This is because, in practice, some work orders do not involve specific structures, and therefore are not going to end up being related to any of the tblStructures records.).

7 tblWorkOrders has a one-to-many relationship with tblCustomers to maintain customer records.

8 tblCustomers has a one-to-many relationship with tblCustomerDiary to track contacts with each customer.
OASIS Table Definitions

- These are the table definitions for OASISBE.MDB.
- The listings are alphabetical, first by table name, then by field name.

This table was derived from an FMS Access Analyzer report output to Excel: Table fields sorted by table name and then field name.

<table>
<thead>
<tr>
<th>Table Name</th>
<th>Field Name</th>
<th>DataType</th>
<th>Field Size</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table: tblCustomerDiary</td>
<td>CustomerID</td>
<td>&quot;Number, Long Integer&quot;</td>
<td>4</td>
<td>ID of Customer connected to this event</td>
</tr>
<tr>
<td></td>
<td>ComplaintStatus</td>
<td>Text</td>
<td>50</td>
<td>Current status of customer service cycle</td>
</tr>
<tr>
<td></td>
<td>EventDate</td>
<td>Date/Time</td>
<td>8</td>
<td>Date this customer interaction occurred</td>
</tr>
<tr>
<td></td>
<td>Method</td>
<td>Text</td>
<td>50</td>
<td>Method of communicating with customer</td>
</tr>
<tr>
<td></td>
<td>DocID</td>
<td>Text</td>
<td>50</td>
<td>ID of document prepared (if any) for this event</td>
</tr>
<tr>
<td></td>
<td>By</td>
<td>Text</td>
<td>50</td>
<td>Who handled the event?</td>
</tr>
<tr>
<td></td>
<td>Notes</td>
<td>Memo</td>
<td>0</td>
<td>Notes about contact</td>
</tr>
</tbody>
</table>

<p>| Table: tblCustomers | CustomerID | &quot;AutoNumber, Long Integer&quot; | 4 | ID of work order associated with this customer         |
|                     | WOID | &quot;Number, Long Integer&quot; | 4 | ID of work order associated with this customer         |</p>
<table>
<thead>
<tr>
<th>Table Name</th>
<th>Field Name</th>
<th>DataType</th>
<th>Field Size</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AssignedTo</td>
<td>Text</td>
<td>10</td>
<td>Name of staff person assigned to handle this customer</td>
</tr>
<tr>
<td></td>
<td>FirstName</td>
<td>Text</td>
<td>50</td>
<td>First name of the customer</td>
</tr>
<tr>
<td></td>
<td>LastName</td>
<td>Text</td>
<td>50</td>
<td>Last name of the customer</td>
</tr>
<tr>
<td></td>
<td>OrganizationName</td>
<td>Text</td>
<td>50</td>
<td>Customer’s organization/company</td>
</tr>
<tr>
<td></td>
<td>AddressNumber</td>
<td>Text</td>
<td>255</td>
<td>Address number of customer’s address. Note: The customer’s address is where the customer can be contacted - not necessarily the address of the sewer problem - although the two are frequently the same.</td>
</tr>
<tr>
<td></td>
<td>Street</td>
<td>Text</td>
<td>50</td>
<td>Street name of customer’s address. Note: The customer’s address is where the customer can be contacted - not necessarily the address of the sewer problem - although the two are frequently the same.</td>
</tr>
<tr>
<td></td>
<td>City</td>
<td>Text</td>
<td>50</td>
<td>City or post office of customer’s address. Note: The customer’s address is where the customer can be contacted - not necessarily the address of the sewer problem - although the two are frequently the same.</td>
</tr>
<tr>
<td></td>
<td>State</td>
<td>Text</td>
<td>50</td>
<td>State or province of customer’s address. Note: The customer’s address is where the customer can be contacted - not necessarily the address of the sewer problem - although the two are frequently the same.</td>
</tr>
<tr>
<td></td>
<td>ZIP</td>
<td>Text</td>
<td>20</td>
<td>ZIP code or postal code of customer’s address. Note: The customer’s address is where the customer can be contacted - not necessarily the address of the sewer problem - although the two are frequently the same.</td>
</tr>
<tr>
<td></td>
<td>PhoneNumbers</td>
<td>Memo</td>
<td>0</td>
<td>Phone number(s) where the customer or on-site contact can be reached.</td>
</tr>
<tr>
<td>Field Name</td>
<td>Data Type</td>
<td>Field Size</td>
<td>Field Description</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>ContactName</td>
<td>Text</td>
<td>50</td>
<td>&quot;Name of the person on-site to contact when the crew arrives. In large organizations such as office buildings or factories, the name of the contact person is often different from the customer’s name.&quot;</td>
<td></td>
</tr>
<tr>
<td>ContactTitle</td>
<td>Text</td>
<td>50</td>
<td>&quot;Title of the person on-site to contact when the crew arrives. In large organizations such as office buildings or factories, the name of the contact person is often different from the customer’s name.&quot;</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td>Memo</td>
<td>0</td>
<td>Memo field describing additional notes about the customer.</td>
<td></td>
</tr>
<tr>
<td>InspectID</td>
<td>&quot;AutoNumber, Long Integer&quot;</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SID</td>
<td>Text</td>
<td>30</td>
<td>Structure Identification Number (SID) of the structure being inspected.</td>
<td></td>
</tr>
<tr>
<td>MeasuredFrom</td>
<td>Text</td>
<td>50</td>
<td>&quot;Direction that the defect is measured from: &quot;U&quot; for upstream manhole and &quot;D&quot; for downstream manhole&quot;</td>
<td></td>
</tr>
<tr>
<td>DefectStarts</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>Distance reading at the start of the defect.</td>
<td></td>
</tr>
<tr>
<td>DefectEnds</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>Distance reading at the end of the defect.</td>
<td></td>
</tr>
<tr>
<td>DefectCode</td>
<td>Text</td>
<td>3</td>
<td>3 letter code for defect or observation. Codes are determined by user and stored in a lookup table.</td>
<td></td>
</tr>
<tr>
<td>DefectQuantity</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>&quot;Defect quantity, usually a measurement in feet or meters.&quot;</td>
<td></td>
</tr>
<tr>
<td>DefectUnit</td>
<td>Text</td>
<td>4</td>
<td>Unit of measurement used to describe defect or observation.</td>
<td></td>
</tr>
<tr>
<td>Field Name</td>
<td>Data Type</td>
<td>Field Size</td>
<td>Field Description</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Action</td>
<td>Text</td>
<td>6</td>
<td>Recommended action to taken to remedy the defect.</td>
<td></td>
</tr>
<tr>
<td>ActionQuantity</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>Recommended action quantity needed to remedy the defect.</td>
<td></td>
</tr>
<tr>
<td>ActionUnit</td>
<td>Text</td>
<td>4</td>
<td>Unit of measurement used to describe remedy action.</td>
<td></td>
</tr>
<tr>
<td>PriorityLevel</td>
<td>Text</td>
<td>2</td>
<td>2 letter code to describe the type and priority of the defect.</td>
<td></td>
</tr>
<tr>
<td>GenerateWO</td>
<td>Yes/No</td>
<td>1</td>
<td>Should a WO be generated to repair the defect?</td>
<td></td>
</tr>
<tr>
<td>WODone</td>
<td>Yes/No</td>
<td>1</td>
<td>The work order generated to repair the defect is now done.</td>
<td></td>
</tr>
<tr>
<td>WOID</td>
<td>Text</td>
<td>10</td>
<td>ID number of work order generated to repair the defect.</td>
<td></td>
</tr>
<tr>
<td>InspectionDetailNotes</td>
<td>Text</td>
<td>26</td>
<td>Memo field describing additional notes about the defect.</td>
<td></td>
</tr>
<tr>
<td>ActionCodeDesc</td>
<td>Text</td>
<td>40</td>
<td>Description of action code.</td>
<td></td>
</tr>
<tr>
<td>ActionUnit</td>
<td>Text</td>
<td>4</td>
<td>&quot;Unit of work associated with this action (lnft, cuyd, cubic meters, etc.).&quot;</td>
<td></td>
</tr>
<tr>
<td>ActionRate</td>
<td>Currency</td>
<td>8</td>
<td>&quot;Cost rate for unit of action, such as cost per hour or cost per cubic yard/meter.&quot;</td>
<td></td>
</tr>
<tr>
<td>AccountNo</td>
<td>Text</td>
<td>15</td>
<td>Account number to charge this action to.</td>
<td></td>
</tr>
<tr>
<td>DefaultAssignment</td>
<td>Text</td>
<td>50</td>
<td>&quot;Default crew assignment for this action. The entry into this field is a choice selected from the Assignments lookup table, which can be edited by the user.&quot;</td>
<td></td>
</tr>
</tbody>
</table>
### OASIS Table Definitions

<table>
<thead>
<tr>
<th>Table Name</th>
<th>Field Name</th>
<th>DataType</th>
<th>Field Size</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ActionLaborHours</td>
<td>ActionLaborHours</td>
<td>&quot;Number,</td>
<td>2</td>
<td>Number of labor hours per unit of action. This number can be used to calculate an estimate of resources needed to complete future maintenance/repair.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Integer&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program</td>
<td>Program</td>
<td>Text</td>
<td>50</td>
<td>&quot;Name of the program that this action falls under, e.g. Maintenance, Repair, etc. The entry into this field is a choice selected from the Program Codes lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td>AssignmentName</td>
<td>AssignmentName</td>
<td>Text</td>
<td>15</td>
<td>Name of assignment</td>
</tr>
<tr>
<td>AssignmentGroup</td>
<td>AssignmentGroup</td>
<td>Text</td>
<td>15</td>
<td>In-house or contractor assignment</td>
</tr>
<tr>
<td>CityCode</td>
<td>CityCode</td>
<td>Text</td>
<td>3</td>
<td>&quot;3 letter code describing the city, town, village, etc. where the structure is located.&quot;</td>
</tr>
<tr>
<td>CityCodeDesc</td>
<td>CityCodeDesc</td>
<td>Text</td>
<td>50</td>
<td>Description of the City code.</td>
</tr>
<tr>
<td>Table Name</td>
<td>Field Name</td>
<td>DataType</td>
<td>Field Size</td>
<td>Field Description</td>
</tr>
<tr>
<td>------------------------------------</td>
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<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>tblLkUpConstructionCodes</td>
<td>ConstructionMethodCode</td>
<td>Text</td>
<td>3</td>
<td>3 letter code describing construction method.</td>
</tr>
<tr>
<td></td>
<td>ConstructionMethodCodeDesc</td>
<td>Text</td>
<td>16</td>
<td>Description of construction method code.</td>
</tr>
<tr>
<td>tblLkUpDefaultCodes</td>
<td>DefaultCityCode</td>
<td>Text</td>
<td>3</td>
<td>&quot;3 letter code describing the default city name to be entered into structure and work order forms. The entry into this field is a choice selected from the City Codes lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td></td>
<td>DefaultStateCode</td>
<td>Text</td>
<td>2</td>
<td>2 letter code describing the default state/province name to be entered into customer service forms. The entry into this field is a choice selected from a pre-set list of states in the USA.</td>
</tr>
<tr>
<td></td>
<td>DefaultManholeTypeCode</td>
<td>Text</td>
<td>50</td>
<td>&quot;2 letter code describing the default manhole type to be entered automatically into structure forms. The entry into this field is a choice selected from the Structure Type lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td>Table Name</td>
<td>Field Name</td>
<td>DataType</td>
<td>Field Size</td>
<td>Field Description</td>
</tr>
<tr>
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<td>----------------------------</td>
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</tr>
<tr>
<td></td>
<td>DefaultMainLineTypeCode</td>
<td>Text</td>
<td>50</td>
<td>&quot;2 letter code describing the default main line type to be entered automatically into structure forms. The entry into this field is a choice selected from the Structure Type lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td></td>
<td>DefaultCBSDDTypeCode</td>
<td>Text</td>
<td>50</td>
<td>&quot;2 letter code describing the default catchbasin/stormdrain type to be entered automatically into structure forms. The entry into this field is a choice selected from the Structure Type lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td></td>
<td>DrainageDistrict</td>
<td>Text</td>
<td>10</td>
<td>&quot;10 letter code describing the drainage district, basin, sub-basin, catchment, etc. where the structure is located.&quot;</td>
</tr>
<tr>
<td></td>
<td>DrainageDistrictDesc</td>
<td>Text</td>
<td>50</td>
<td>Description of drainage district.</td>
</tr>
<tr>
<td></td>
<td>FieldMap</td>
<td>Text</td>
<td>20</td>
<td>ID number/description of field map that shows where the structure is located.</td>
</tr>
<tr>
<td>Table Name</td>
<td>Field Name</td>
<td>DataType</td>
<td>Field Size</td>
<td>Field Description</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------</td>
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<td>------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>tblLkUpInspectionDefectCodes</td>
<td>InspectionDefectCode</td>
<td>Text</td>
<td>3</td>
<td>3 letter code for inspection defect or observation.</td>
</tr>
<tr>
<td></td>
<td>InspectionDefectCodeDesc</td>
<td>Text</td>
<td>16</td>
<td>16 character description of inspection defect code/observation code.</td>
</tr>
<tr>
<td></td>
<td>InspectionDefectUnit</td>
<td>Text</td>
<td>4</td>
<td>&quot;4 letter code describing the unit of measurement associated with defect/observation (lnft, cuyd, cumt, etc.).&quot;</td>
</tr>
<tr>
<td></td>
<td>InspectionDefectDefaultAction</td>
<td>Text</td>
<td>5</td>
<td>Default action to be taken to repair defect.</td>
</tr>
<tr>
<td></td>
<td>LocationRef</td>
<td>Text</td>
<td>30</td>
<td>Short-hand description of structure locations as they are found in the field.</td>
</tr>
</tbody>
</table>
### OASIS Table Definitions

<table>
<thead>
<tr>
<th>Table Name</th>
<th>Field Name</th>
<th>DataType</th>
<th>Field Size</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table: tblLkUpMaterialTypeCodes</td>
<td>MaterialTypeCode</td>
<td>Text</td>
<td>3</td>
<td>3 letter code describing material type.</td>
</tr>
<tr>
<td></td>
<td>MaterialTypeDesc</td>
<td>Text</td>
<td>20</td>
<td>Description of material type.</td>
</tr>
<tr>
<td>Table: tblLkUpNeighborhoodCodes</td>
<td>NeighborhoodCode</td>
<td>Text</td>
<td>3</td>
<td>&quot;3 letter code describing the neighborhood, subdivision, borough, district, etc. where the structure is located.&quot;</td>
</tr>
<tr>
<td></td>
<td>NeighborhoodCodeDesc</td>
<td>Text</td>
<td>50</td>
<td>Description of Neighborhood code.</td>
</tr>
<tr>
<td>Table: tblLkUpProblemCodes</td>
<td>ProblemCode</td>
<td>Text</td>
<td>3</td>
<td>3 letter code describing problem or field situation on a work order.</td>
</tr>
<tr>
<td>Table Name</td>
<td>Field Name</td>
<td>DataType</td>
<td>Field Size</td>
<td>Field Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------------------</td>
<td>----------</td>
<td>------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>tblLkUpProgramCodes</td>
<td>ProblemCodeDesc</td>
<td>Text</td>
<td>25</td>
<td>Description of problem code.</td>
</tr>
<tr>
<td></td>
<td>ProblemCodeUnit</td>
<td>Text</td>
<td>4</td>
<td>&quot;Unit of measurement associated with problem (lnft, cuyd, etc.).&quot;</td>
</tr>
<tr>
<td></td>
<td>ProblemDefaultActionCode</td>
<td>Text</td>
<td>6</td>
<td>&quot;6 letter code describing default action to be taken to fix problem. The entry into this field is a choice selected from the Action Codes lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td></td>
<td>ProblemDefaultActionCodeDesc</td>
<td>Text</td>
<td>40</td>
<td>&quot;Description of default action to be taken to fix problem, taken from the Action Codes table.&quot;</td>
</tr>
<tr>
<td></td>
<td>InspectionDefectStatus</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>&quot;Should the problem appear on the picklist of inspection defects (1), the work order problem list (2), both lists (3)?&quot;</td>
</tr>
<tr>
<td></td>
<td>ProgramCode</td>
<td>Text</td>
<td>50</td>
<td>&quot;Agency division with major responsibilities, e.g., Operations, Admin, Engineering.&quot;</td>
</tr>
<tr>
<td></td>
<td>ProgramCodeDesc</td>
<td>Text</td>
<td>50</td>
<td>Description of Program code.</td>
</tr>
<tr>
<td></td>
<td>SourceType</td>
<td>Text</td>
<td>50</td>
<td>Description of common sources of complaints received by the agency.</td>
</tr>
</tbody>
</table>
### Table: tblLkUpStreets

<table>
<thead>
<tr>
<th>Field Name</th>
<th>DataType</th>
<th>Field Size</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>StreetName</td>
<td>Text</td>
<td>50</td>
<td>Name of a street as it should appear on structure records and work orders.</td>
</tr>
</tbody>
</table>

### Table: tblLkUpStructureTypeCodes

<table>
<thead>
<tr>
<th>Field Name</th>
<th>DataType</th>
<th>Field Size</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>StructureCode</td>
<td>Text</td>
<td>2</td>
<td>2 letter code describing the structure type.</td>
</tr>
<tr>
<td>StructureCodeDesc</td>
<td>Text</td>
<td>50</td>
<td>Description of Structure Type code.</td>
</tr>
<tr>
<td>StructureGroup</td>
<td>Text</td>
<td>2</td>
<td>&quot;Group that the structure belongs to. Note: Each structure type must be assigned to one of these groups: &quot;MH&quot; (manholes), &quot;ML&quot; (main lines), &quot;SL&quot; (service laterals), &quot;CS&quot; (catchbasins/stormdrains), or &quot;ST&quot; (septic tanks).&quot;</td>
</tr>
</tbody>
</table>

### Table: tblLkUpZIPCodes

<table>
<thead>
<tr>
<th>Field Name</th>
<th>DataType</th>
<th>Field Size</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZIPCode</td>
<td>Text</td>
<td>5</td>
<td>5 digit ZIP code (USA) or postal code (non-USA) describing where the structure is located.</td>
</tr>
<tr>
<td>ZIPCodeDesc</td>
<td>Text</td>
<td>50</td>
<td>Description of ZIP/postal code.</td>
</tr>
<tr>
<td>Table Name</td>
<td>Field Name</td>
<td>DataType</td>
<td>Field Size</td>
</tr>
<tr>
<td>-----------</td>
<td>------------</td>
<td>----------</td>
<td>------------</td>
</tr>
<tr>
<td>tblPM</td>
<td>Neighborhood</td>
<td>Text</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PMID</td>
<td>“AutoNumber, Long Integer”</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>SID</td>
<td>Text</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>PMType</td>
<td>Text</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>PMWorkload</td>
<td>“Number, Integer”</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>PMUnit</td>
<td>Text</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>PMFrequency</td>
<td>“Number, Integer”</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>PMLastDone</td>
<td>Date/Time</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>PMNextDue</td>
<td>Date/Time</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>PMCrewHours</td>
<td>“Number, Single”</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>PMCrew</td>
<td>Text</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>PMNotes</td>
<td>Memo</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>DateModified</td>
<td>Date/Time</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>TimeModified</td>
<td>Date/Time</td>
<td>8</td>
</tr>
</tbody>
</table>
Table Name | Field Name | Data Type | Field Size | Field Description
--- | --- | --- | --- | ---
Table: tblStructures | GenerateWO | Yes/No | 1 | “Should a preventive maintenance be generated? If this field has a "check" in it (which means "Yes"), a work order will be generated to do the structure’s scheduled PM.”
 | WO ID | Text | 6 | Inspection work order ID number - the work order has been generated but not yet completed.
 | PMForecastGroup | "Number, Long Integer" | 4 | The number of the forecast group that dictates this due date. PM forecasting is not implemented at this time.
 | PMGroupID | Text | 50 | Identification number of the preventive maintenance sequencing group that the structure belongs to (if any).
 | PMSequenceID | "Number, Integer" | 2 | Number that determines the structures place in the preventive maintenance sequence.
 | SID | Text | 33 | “Structure Identification Number (SID) of every structure: manhole, main line, service lateral, cb/stormdrain, or septic tank. Although this field allows 33 characters, manholes are limited to 16 because two manhole ID’s combine to form a main line.”
 | StructureGroup | Text | 4 | “General group that a structure belongs to: MH - manhole, ML - main line, SL - service lateral, CS - catchbasin/stormdrain, or ST - septic tank. OASIS assigns a structure group automatically to each new structure record based on which data form is used.”
<table>
<thead>
<tr>
<th>Table Name</th>
<th>Field Name</th>
<th>DataType</th>
<th>Field Size</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>StructureType</td>
<td>Text</td>
<td>2</td>
<td>“2 letter code describing the type of structure such as SA (sanitary sewer) or MH (regular manhole) or MP (pressure manhole). The entry into this field is a choice selected from the Structure Type lookup table, which can be edited by the user.”</td>
</tr>
<tr>
<td></td>
<td>OtherStructureTypeDesc</td>
<td>Text</td>
<td>20</td>
<td>“Description of a structure belonging to the “Other” group. Not currently implemented in OASIS.”</td>
</tr>
<tr>
<td></td>
<td>UpstreamManhole</td>
<td>Text</td>
<td>16</td>
<td>Structure Identification Number (SID) of the upstream manhole in a main line record.</td>
</tr>
<tr>
<td></td>
<td>UpstreamManholeLocation</td>
<td>Text</td>
<td>50</td>
<td>Short description of the location of the upstream manhole on a main line. This field is filled in automatically by OASIS based on whatever street addressing was entered into the manhole’s primary record.</td>
</tr>
<tr>
<td></td>
<td>DownstreamManhole</td>
<td>Text</td>
<td>16</td>
<td>Structure Identification Number (SID) of the downstream manhole in a main line record.</td>
</tr>
<tr>
<td></td>
<td>DownstreamManholeLocation</td>
<td>Text</td>
<td>50</td>
<td>Short description of the location of the downstream manhole on a main line. This field is filled in automatically by OASIS based on whatever street addressing was entered into the manhole’s primary record.</td>
</tr>
<tr>
<td></td>
<td>AddressNumber</td>
<td>Text</td>
<td>5</td>
<td>Street address number where a structure is located.</td>
</tr>
<tr>
<td></td>
<td>Street</td>
<td>Text</td>
<td>50</td>
<td>“Street, road, or highway name where a structure is located. The entry into this field is a choice selected from the Streets lookup table, which can be edited by the user.”</td>
</tr>
<tr>
<td></td>
<td>CrossStreet1</td>
<td>Text</td>
<td>50</td>
<td>“Name of first cross-street nearest a structure that has a street address. The entry into this field is a choice selected from the Streets lookup table, which can be edited by the user.”</td>
</tr>
<tr>
<td>Table Name</td>
<td>Field Name</td>
<td>DataType</td>
<td>Field Size</td>
<td>Field Description</td>
</tr>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>CrossStreet2</td>
<td>Text</td>
<td>50</td>
<td>&quot;Name of second cross-street nearest a structure that has a street address. The entry into this field is a choice selected from the Streets lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td></td>
<td>Intersection</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;Is the structure located in an intersection? If this field has a &quot;check&quot; in it (meaning &quot;Yes&quot;, the structure is in an intersection), the structure's address will be formed automatically using the &quot;Street&quot; field and the first cross-street field.&quot;</td>
</tr>
<tr>
<td></td>
<td>Easement</td>
<td>Yes/No</td>
<td>1</td>
<td>Is the structure located in an easement or right-of-way?</td>
</tr>
<tr>
<td></td>
<td>AssessorsParcelNumber</td>
<td>Text</td>
<td>50</td>
<td>Assessor's Parcel Number (APN) that identifies the property where a structure is located. This is typically used for service lateral and septic tank records.</td>
</tr>
<tr>
<td></td>
<td>City</td>
<td>Text</td>
<td>3</td>
<td>&quot;3 letter code describing the city, town, village, etc. where the structure is located. The entry into this field is a choice selected from the City lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td></td>
<td>Zip</td>
<td>Text</td>
<td>5</td>
<td>&quot;5 digit ZIP code (USA) or postal code (non-USA) describing where the structure is located. The entry into this field is a choice selected from the ZIP Code lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td></td>
<td>DrainageDistrict</td>
<td>Text</td>
<td>10</td>
<td>&quot;Drainage district, drainage basin, catchment where the structure is located. The entry into this field is a choice selected from the Drainage District lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td></td>
<td>Neighborhood</td>
<td>Text</td>
<td>3</td>
<td>&quot;3 letter code describing the neighborhood, subdivision, borough, district, etc. where the structure is located. The entry into this field is a choice selected from the Neighborhood lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td>Table Name</td>
<td>Field Name</td>
<td>DataType</td>
<td>Field Size</td>
<td>Field Description</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>FieldMapID</td>
<td>Text</td>
<td>20</td>
<td>&quot;ID number or name of collection system field map where the structure is located. The entry into this field is a choice selected from the Field Map lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td></td>
<td>LocationQuickReference</td>
<td>Text</td>
<td>26</td>
<td>&quot;26 character description that helps field crews locate the structure in the field. The entry into this field is a choice selected from the Location Reference lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td></td>
<td>LocationNotes</td>
<td>Memo</td>
<td>0</td>
<td>Memo field to provide expanded description of the structure's location.</td>
</tr>
<tr>
<td></td>
<td>DrainsTo</td>
<td>Text</td>
<td>33</td>
<td>Structure ID (SID) of the pipe or manhole that a service lateral or catchbasin/stormdrain drains to. This field provides linkage of service laterals and catchbasins/stormdrains to the rest of the collection system.</td>
</tr>
<tr>
<td></td>
<td>Shape</td>
<td>Text</td>
<td>4</td>
<td>&quot;4 letter code describing the shape of the structure. Most structures are circular, but this field provides a description of those that are oddly-shaped. The entry into this field is a choice selected from a pre-set lookup table of shapes.&quot;</td>
</tr>
<tr>
<td></td>
<td>Size1</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>&quot;Size of the structure, usually expressed as the diameter of a pipe or width of a manhole, in inches or millimeters. This is the first of two structure size fields. (Only one size needed for circular structures.)&quot;</td>
</tr>
<tr>
<td></td>
<td>Size2</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>&quot;This is the second of the two structure size fields. The second structure size is used for non-circular structures (e.g., box sewers) where two dimensions are needed to describe its size, in inches or millimeters.&quot;</td>
</tr>
<tr>
<td></td>
<td>Material</td>
<td>Text</td>
<td>3</td>
<td>&quot;3 letter code to describe the type of material that the structure is constructed of. The entry into this field is a choice selected from the Material Type lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td>Table Name</td>
<td>Field Name</td>
<td>DataType</td>
<td>Field Size</td>
<td>Field Description</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------</td>
<td>----------------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Length</td>
<td>&quot;Number, Single&quot;</td>
<td>4</td>
<td>&quot;Length of the structure, usually the length of a main line pipe, service lateral pipe, or septic tank, expressed in feet or meters.&quot;</td>
</tr>
<tr>
<td></td>
<td>UpstreamPipeInvert</td>
<td>&quot;Number, Single&quot;</td>
<td>4</td>
<td>&quot;Invert of the pipe where it connects to the upstream mh. This field is of value only if the pipe invert is different from the manhole invert, as is commonly found in drop manholes.&quot;</td>
</tr>
<tr>
<td></td>
<td>DnstreamPipeInvert</td>
<td>&quot;Number, Single&quot;</td>
<td>4</td>
<td>&quot;Invert of the pipe where it connects to the downstream mh. This field is of value only if the pipe invert is different from the manhole invert, as is commonly found in drop manholes.&quot;</td>
</tr>
<tr>
<td></td>
<td>USStationing</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>&quot;Stationing of the upstream manhole on the sewer line. Note that stationing is only stored with a main line record - not a manhole record - because a single manhole can be part of several main lines, each of which have different stationing runs.&quot;</td>
</tr>
<tr>
<td></td>
<td>DSStationing</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>&quot;Stationing of the downstream manhole on the sewer line. Note that stationing is only stored with a main line record - not a manhole record - because a single manhole can be part of several main lines, each of which have different stationing runs.&quot;</td>
</tr>
<tr>
<td></td>
<td>SurveyX</td>
<td>&quot;Number, Double&quot;</td>
<td>8</td>
<td>&quot;Survey value &quot;X&quot; of the structure, typically of a manhole or catchbasin/stormdrain. This field in not formatted, so it can accept survey data in any coordinate expression, e.g. latitude/longitude, state plane coordinates, local coordinates, etc.&quot;</td>
</tr>
<tr>
<td></td>
<td>SurveyY</td>
<td>&quot;Number, Double&quot;</td>
<td>8</td>
<td>&quot;Survey value &quot;Y&quot; of the structure, typically of a manhole or catchbasin/stormdrain. This field in not formatted, so it can accept survey data in any coordinate expression, e.g. latitude/longitude, state plane coordinates, local coordinates, etc.&quot;</td>
</tr>
<tr>
<td></td>
<td>EngineeringNotes</td>
<td>Memo</td>
<td>0</td>
<td>Memo field to provide engineering/technical notes about the structure</td>
</tr>
<tr>
<td>Table Name</td>
<td>Field Name</td>
<td>DataType</td>
<td>Field Size</td>
<td>Field Description</td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td>----------</td>
<td>------------</td>
<td>-------------------</td>
</tr>
</tbody>
</table>
| DateBuilt  | Date/Time  | 8        | "Date of the construction, date of last replacement, or date of last major rehab of the structure. The default beginning date is 01/01/1700, but OASIS will accept any date after the year 1."
<p>| PlanNumber | Text       | 25       | ID number of plan/design drawing of the structure. |
| AsBuiltNumber | Text      | 25       | &quot;ID number of as-built drawing of the structure, if different from the plan number.&quot; |
| Cost       | Currency   | 8        | &quot;Original construction cost of the structure (or its most recent rehabilitation), expressed in decimal values suitable for US dollars, Canadian dollars, English pounds, etc. or wherever decimal currency is used.&quot; |
| WarrantyEndDate | Date/Time | 8        | &quot;Expiration date of any warranty that has been required of a contractor for new construction or major rehabilitation of the structure. If a date entered in this field is in the future, the screen will turn the color red whenever the record is retrieved.&quot; |
| Construction/RehabMethod | Text       | 3        | &quot;3 letter code describing the type/method of construction or rehabilitation of the structure. The entry into this field is a choice selected from the Construction Method lookup table, which can be edited by the user.&quot; |
| Rehab/ReplaceCost | Currency | 8        | &quot;Future construction cost for the replacement or rehabilitation of the structure, expressed in decimal values suitable for US dollars, Canadian dollars, English pounds, etc. or wherever decimal currency is used.&quot; |
| RimElevation | &quot;Number, Single&quot; | 4        | Rim elevation of the manhole or catchbasin/stormdrain |
| InvertElevation | &quot;Number, Single&quot; | 4        | Invert elevation of the manhole or catchbasin/stormdrain |</p>
<table>
<thead>
<tr>
<th>Table Name</th>
<th>Field Name</th>
<th>DataType</th>
<th>Field Size</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Depth</td>
<td>&quot;Number, Single&quot;</td>
<td>4</td>
<td>&quot;Depth of the structure, in feet or meters. Manhole and catchbasin/stormdrain depths are calculated automatically if the rim and elevation values are entered. Depths of main lines, service laterals, and septic tanks must be entered by user.&quot;</td>
</tr>
<tr>
<td></td>
<td>HeadEnd</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;Is this manhole at the head end of a pipe? In other words, is it NOT connected UPSTREAM to another manhole?&quot;</td>
</tr>
<tr>
<td></td>
<td>PrivatelyOwned</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;Is the structure privately owned? If this field has a &quot;check&quot; in it (which means &quot;Yes&quot;), the screen will turn the color red whenever the record is retrieved.&quot;</td>
</tr>
<tr>
<td></td>
<td>PrivatelyMaintained</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;Is the structure privately maintained? If this field has a &quot;check&quot; in it (which means &quot;Yes&quot;), the screen will turn the color red whenever the record is retrieved.&quot;</td>
</tr>
<tr>
<td></td>
<td>Hazard</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;Is there some aspect of the structure (or the immediate area) that is extraordinarily hazardous to inspect and/or maintain? If this field has a &quot;check&quot; in it (which means &quot;Yes&quot;), the screen will turn the color red whenever the record is retrieved.&quot;</td>
</tr>
<tr>
<td></td>
<td>Sump</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;Is the structure located in a sump that has no overland flow exit? If this field has a &quot;check&quot; in it (which means &quot;Yes&quot;), the screen will turn the color red whenever the record is retrieved.&quot;</td>
</tr>
<tr>
<td></td>
<td>BuiltUnder</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;Is the structure (usually a pipe) beneath a building or other improvement? If this field has a &quot;check&quot; in it (which means &quot;Yes&quot;), the screen will turn the color red whenever the record is retrieved.&quot;</td>
</tr>
<tr>
<td></td>
<td>MiscellaneousNotes</td>
<td>Memo</td>
<td>0</td>
<td>Memo field to provide miscellaneous notes regarding the structure.</td>
</tr>
<tr>
<td></td>
<td>DateModified</td>
<td>Date/Time</td>
<td>8</td>
<td>Date when the record was last modified.</td>
</tr>
<tr>
<td>Field Name</td>
<td>DataType</td>
<td>Field Size</td>
<td>Field Description</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>TimeModified</td>
<td>Date/Time</td>
<td>8</td>
<td>Time when the record was last modified.</td>
<td></td>
</tr>
<tr>
<td>InspectionMethod</td>
<td>Text</td>
<td>3</td>
<td>3 letter code describing the method used to inspect this structure. The entry into this field is a choice selected from a pre-set list of inspection methods.</td>
<td></td>
</tr>
<tr>
<td>InspectionFrequency</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>&quot;Frequency, in days, between scheduled inspections. The entry into this field is a choice selected from a pre-set list of intervals ranging from one day to 20 years.&quot;</td>
<td></td>
</tr>
<tr>
<td>InspectionLastDone</td>
<td>Date/Time</td>
<td>8</td>
<td>Date of the last inspection of the structure.</td>
<td></td>
</tr>
<tr>
<td>InspectionNextDue</td>
<td>Date/Time</td>
<td>8</td>
<td>Date when the next scheduled inspection is due.</td>
<td></td>
</tr>
<tr>
<td>InspectionCrewHours</td>
<td>&quot;Number, Single&quot;</td>
<td>4</td>
<td>Number of crew hours required to do inspection.</td>
<td></td>
</tr>
<tr>
<td>InspectionCrew</td>
<td>Text</td>
<td>50</td>
<td>ID of the crew that did the last inspection.</td>
<td></td>
</tr>
<tr>
<td>InspectionFormID</td>
<td>Text</td>
<td>50</td>
<td>ID of agency’s paper inspection form.</td>
<td></td>
</tr>
<tr>
<td>InspectionTapeID</td>
<td>Text</td>
<td>50</td>
<td>ID of the TV tape containing the last inspection.</td>
<td></td>
</tr>
<tr>
<td>InspectionTapeIndex</td>
<td>Text</td>
<td>50</td>
<td>&quot;VCR/tape index counter reading, at the beginning of the inspection.&quot;</td>
<td></td>
</tr>
<tr>
<td>InspectionEntryPoint</td>
<td>Text</td>
<td>2</td>
<td>Did the inspection begin at the upstream or downstream mh?</td>
<td></td>
</tr>
<tr>
<td>InspectionNotes</td>
<td>Memo</td>
<td>0</td>
<td>Memo field to provide notes about the inspection.</td>
<td></td>
</tr>
<tr>
<td>StructuralRating</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>&quot;Rating of the structure’s physical/structural condition: 1 to 4 (1 is &quot;Severe&quot;, 2 is &quot;Moderate&quot;, 3 is &quot;OK&quot;, and 4 is &quot;Not rated at this time&quot;).&quot;</td>
<td></td>
</tr>
<tr>
<td>DebrisRating</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>&quot;Rating of structure’s debris accumulation: 1 to 4 (1 is &quot;Severe&quot;, 2 is &quot;Moderate&quot;, 3 is &quot;OK&quot;, and 4 is &quot;Not rated at this time&quot;).&quot;</td>
<td></td>
</tr>
<tr>
<td>Table Name</td>
<td>Field Name</td>
<td>Data Type</td>
<td>Field Size</td>
<td>Field Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------</td>
<td>----------------------</td>
<td>------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>GreaseRating</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td></td>
<td>&quot;Rating of structure’s grease accumulation: 1 to 4 (1 is &quot;Severe&quot;, 2 is &quot;Moderate&quot;, 3 is &quot;OK&quot;, and 4 is &quot;Not rated at this time&quot;).&quot;</td>
</tr>
<tr>
<td>RootRating</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td></td>
<td>&quot;Rating of root intrusion into the structure: 1 to 4 (1 is &quot;Severe&quot;, 2 is &quot;Moderate&quot;, 3 is &quot;OK&quot;, and 4 is &quot;Not rated at this time&quot;).&quot;</td>
</tr>
<tr>
<td>InflowInfiltrationRating</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td></td>
<td>&quot;Rating of infiltration and inflow (I &amp; I) into the structure: 1 to 4 (1 is &quot;Severe&quot;, 2 is &quot;Moderate&quot;, 3 is &quot;OK&quot;, and 4 is &quot;Not rated at this time&quot;).&quot;</td>
</tr>
<tr>
<td>VerminRating</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td></td>
<td>&quot;Rating of rat and roach activity in/around the structure: 1 to 4 (1 is &quot;Severe&quot;, 2 is &quot;Moderate&quot;, 3 is &quot;OK&quot;, and 4 is &quot;Not rated at this time&quot;).&quot;</td>
</tr>
<tr>
<td>OdorRating</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td></td>
<td>&quot;Rating of unacceptably bad odors in/around the structure: 1 to 4 (1 is &quot;Severe&quot;, 2 is &quot;Moderate&quot;, 3 is &quot;OK&quot;, and 4 is &quot;Not rated at this time&quot;).&quot;</td>
</tr>
<tr>
<td>SurchargeRating</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td></td>
<td>&quot;Rating of evidence of surcharging in/around the structure: 1 to 4 (1 is &quot;Severe&quot;, 2 is &quot;Moderate&quot;, 3 is &quot;OK&quot;, and 4 is &quot;Not rated at this time&quot;).&quot;</td>
</tr>
<tr>
<td>FirstPriorityDefects</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td></td>
<td>&quot;Count of structural defects classified as severe (Rating level of &quot;1&quot;).&quot;</td>
</tr>
<tr>
<td>SecondPriorityDefects</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td></td>
<td>&quot;Count of structural defects classified as moderate (Rating level of &quot;2&quot;).&quot;</td>
</tr>
<tr>
<td>ConditionNotes</td>
<td>Memo</td>
<td>0</td>
<td></td>
<td>Memo field to provide notes about the structure’s condition.</td>
</tr>
<tr>
<td>PMCalculation</td>
<td>&quot;Number, Long Integer&quot;</td>
<td>4</td>
<td></td>
<td>This field is used for temporary calculations during PM forecasting. PM forecasting is not implemented at this time.</td>
</tr>
<tr>
<td>BillingNumber</td>
<td>Text</td>
<td>50</td>
<td></td>
<td>&quot;Customer billing number useable for a variety of billing purposes such as sewer service charges, service lateral or septic tank maintenance, etc.&quot;</td>
</tr>
<tr>
<td>Table Name</td>
<td>Field Name</td>
<td>DataType</td>
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<td>Field Description</td>
</tr>
<tr>
<td>-----------------</td>
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<td>------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SICCode</td>
<td>Text</td>
<td>50</td>
<td></td>
<td>Standard Industrial Code for the service lateral discharger.</td>
</tr>
<tr>
<td>DischargerID</td>
<td>Text</td>
<td>50</td>
<td></td>
<td>&quot;Unique ID (if any) assigned to the service lateral discharger, used primarily for monitoring industrial waste dischargers.&quot;</td>
</tr>
<tr>
<td>InspectionQuickRating</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td></td>
<td>&quot;Quick rating assigned to overall condition of structure: 1 to 4 (1 is &quot;Severe&quot;, 2 is &quot;Moderate&quot;, 3 is &quot;OK&quot;, and 4 is &quot;Not rated at this time&quot;).&quot;</td>
</tr>
<tr>
<td>SepticTankDrainFieldLength</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td></td>
<td>&quot;Length of septic tank drain field, in feet or meters.&quot;</td>
</tr>
<tr>
<td>SepticTankPriorityClass</td>
<td>Text</td>
<td>50</td>
<td></td>
<td>Level of priority for septic tank service.</td>
</tr>
<tr>
<td>SepticTankDrainFieldType</td>
<td>Text</td>
<td>50</td>
<td></td>
<td>Style of septic tank drain field design/construction.</td>
</tr>
<tr>
<td>SepticTankCapacity</td>
<td>&quot;Number, Long Integer&quot;</td>
<td>4</td>
<td></td>
<td>&quot;Septic tank capacity, in gallons or liters.&quot;</td>
</tr>
<tr>
<td>SepticTankUserClass</td>
<td>Text</td>
<td>50</td>
<td></td>
<td>Septic tank user class</td>
</tr>
<tr>
<td>SepticTankWaterUsage</td>
<td>&quot;Number, Long Integer&quot;</td>
<td>4</td>
<td></td>
<td>&quot;Septic tank property's water usage, in gallons or liters.&quot;</td>
</tr>
<tr>
<td>Size</td>
<td>Text</td>
<td>50</td>
<td></td>
<td>Size of structure as described by combination of Size1 and Size2 (text)</td>
</tr>
<tr>
<td>Size1And2</td>
<td>&quot;Number, Long Integer&quot;</td>
<td>4</td>
<td></td>
<td>Size of structure as described by combination of Size1 and Size2 (numeric)</td>
</tr>
<tr>
<td>UserDef1</td>
<td>Text</td>
<td>50</td>
<td></td>
<td>&quot;User-defined text field, not implemented at this time.&quot;</td>
</tr>
<tr>
<td>UserDef2</td>
<td>Text</td>
<td>50</td>
<td></td>
<td>&quot;User-defined text field, not implemented at this time.&quot;</td>
</tr>
<tr>
<td>UserDef3</td>
<td>Text</td>
<td>50</td>
<td></td>
<td>&quot;User-defined text field, not implemented at this time.&quot;</td>
</tr>
<tr>
<td>UserDef4</td>
<td>Text</td>
<td>50</td>
<td></td>
<td>&quot;User-defined text field, not implemented at this time.&quot;</td>
</tr>
<tr>
<td>UserDef5</td>
<td>Text</td>
<td>50</td>
<td></td>
<td>&quot;User-defined text field, not implemented at this time.&quot;</td>
</tr>
</tbody>
</table>
## OASIS Table Definitions

<table>
<thead>
<tr>
<th>Table Name</th>
<th>Field Name</th>
<th>Data Type</th>
<th>Field Size</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UserDef6</td>
<td>Text</td>
<td>50</td>
<td>&quot;User-defined text field, not implemented at this time.&quot;</td>
</tr>
<tr>
<td></td>
<td>UserBool1</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;User-defined yes/no field, not implemented at this time.&quot;</td>
</tr>
<tr>
<td></td>
<td>UserBool2</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;User-defined yes/no field, not implemented at this time.&quot;</td>
</tr>
<tr>
<td></td>
<td>UserBool3</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;User-defined yes/no field, not implemented at this time.&quot;</td>
</tr>
<tr>
<td></td>
<td>PMGroupID</td>
<td>Text</td>
<td>50</td>
<td>Identification number of the preventive maintenance sequencing group that the structure belongs to (if any).</td>
</tr>
<tr>
<td></td>
<td>PMSequenceID</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>Number that determines the structures place in the preventive maintenance sequence.</td>
</tr>
<tr>
<td></td>
<td>InspectionGroupID</td>
<td>Text</td>
<td>50</td>
<td>Identification number of the inspection sequencing group that the structure belongs to (if any).</td>
</tr>
<tr>
<td></td>
<td>InspectionSequenceID</td>
<td>&quot;Number, Integer&quot;</td>
<td>2</td>
<td>Number that determines the structures place in the inspection sequence.</td>
</tr>
<tr>
<td></td>
<td>GenerateWO</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;Should an inspection WO be generated? If this field has a &quot;check&quot; in it (which means &quot;Yes&quot;), a work order will be generated to do the structure’s scheduled inspection.&quot;</td>
</tr>
<tr>
<td></td>
<td>WO ID</td>
<td>Text</td>
<td>6</td>
<td>Inspection work order ID number - the work order has been generated but not yet completed.</td>
</tr>
<tr>
<td></td>
<td>OASISBEversion705</td>
<td>Yes/No</td>
<td>1</td>
<td>This field is only used to identify the version of the backend database. There is no user input for this field.</td>
</tr>
<tr>
<td></td>
<td>WOID</td>
<td>&quot;AutoNumber, Long Integer&quot;</td>
<td>4</td>
<td>OASIS work order id (internal)</td>
</tr>
<tr>
<td><strong>Table Name</strong></td>
<td><strong>Field Name</strong></td>
<td><strong>DataType</strong></td>
<td><strong>Field Size</strong></td>
<td><strong>Field Description</strong></td>
</tr>
<tr>
<td>----------------</td>
<td>----------------</td>
<td>---------------</td>
<td>----------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td></td>
<td>AgencyWOID</td>
<td>Text</td>
<td>10</td>
<td>Agency ID (if any) from agency’s paper form(s).</td>
</tr>
<tr>
<td></td>
<td>SID</td>
<td>Text</td>
<td>50</td>
<td>“Structure Identification Number (SID) of structure being worked on, if the SID is known.”</td>
</tr>
<tr>
<td></td>
<td>WOType</td>
<td>Text</td>
<td>2</td>
<td>Not used at this time.</td>
</tr>
<tr>
<td></td>
<td>AddressNumber</td>
<td>Text</td>
<td>5</td>
<td>Street address number where the work order problem is located.</td>
</tr>
<tr>
<td></td>
<td>Street</td>
<td>Text</td>
<td>50</td>
<td>“Street, road, or highway name where the work order problem is located. The entry into this field is a choice selected from the Streets lookup table, which can be edited by the user.”</td>
</tr>
<tr>
<td></td>
<td>CrossStreet1</td>
<td>Text</td>
<td>50</td>
<td>“Name of the first cross-street nearest a work order problem that has a street address. The entry into this field is a choice selected from the Streets lookup table, which can be edited by the user.”</td>
</tr>
<tr>
<td></td>
<td>CrossStreet2</td>
<td>Text</td>
<td>50</td>
<td>“Name of the first cross-street nearest a work order problem that has a street address. Note: If a structure has an intersection address, this field is combined (automatically) with the “Street” field to form the address.”</td>
</tr>
<tr>
<td></td>
<td>Intersection</td>
<td>Yes/No</td>
<td>1</td>
<td>“Is the problem located in an intersection? If this field has a “check” in it (meaning “Yes”), the structure is in an intersection), the structure’s address will be formed automatically using the “Street” field and the first cross-street field.”</td>
</tr>
<tr>
<td></td>
<td>LocationNotes</td>
<td>Memo</td>
<td>0</td>
<td>Memo field provided for an extended description of work order location.</td>
</tr>
<tr>
<td></td>
<td>City</td>
<td>Text</td>
<td>3</td>
<td>“3 letter code describing the city, town, village, etc. where the work order problem is located. The entry into this field is a choice selected from the City lookup table, which can be edited by the user.”</td>
</tr>
</tbody>
</table>
## OASIS Table Definitions

<table>
<thead>
<tr>
<th>Table Name</th>
<th>Field Name</th>
<th>DataType</th>
<th>Field Size</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zip</td>
<td>Text</td>
<td>5</td>
<td>&quot;5 digit ZIP code (USA) or postal code (non-USA) describing where the structure is located. The entry into this field is a choice selected from the ZIP Code lookup table, which can be edited by the user.&quot;</td>
<td></td>
</tr>
<tr>
<td>Neighborhood</td>
<td>Text</td>
<td>3</td>
<td>&quot;3 letter code describing the neighborhood, subdivision, borough, district, etc. where the structure is located. The entry into this field is a choice selected from the Neighborhood lookup table, which can be edited by the user.&quot;</td>
<td></td>
</tr>
<tr>
<td>DrainageDistrict</td>
<td>Text</td>
<td>10</td>
<td>&quot;Drainage district, drainage basin, catchment where the structure is located. The entry into this field is a choice selected from the Drainage District lookup table, which can be edited by the user.&quot;</td>
<td></td>
</tr>
<tr>
<td>Easement</td>
<td>Yes/No</td>
<td>1</td>
<td>Is the jobsite located in an easement?</td>
<td></td>
</tr>
<tr>
<td>LocationQuickReference</td>
<td>Text</td>
<td>26</td>
<td>&quot;26 character description that helps field crews locate the structure in the field. The entry into this field is a choice selected from the Location Reference lookup table, which can be edited by the user.&quot;</td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>Text</td>
<td>15</td>
<td>Current status of job: Open or Done.</td>
<td></td>
</tr>
<tr>
<td>Problem</td>
<td>Text</td>
<td>3</td>
<td>&quot;3 letter code describing problem or field situation on a work order. The entry into this field is a choice selected from the Problem Codes lookup table, which can be edited by the user.&quot;</td>
<td></td>
</tr>
<tr>
<td>ProblemQty</td>
<td>&quot;Number, Long Integer&quot;</td>
<td>4</td>
<td>Estimated quantity of work needed to do job.</td>
<td></td>
</tr>
<tr>
<td>ProblemUnit</td>
<td>Text</td>
<td>50</td>
<td>&quot;Unit of work associated with the problem (lnft, cuyd, cubic meters, etc.)&quot;</td>
<td></td>
</tr>
<tr>
<td>ProblemNotes</td>
<td>Memo</td>
<td>0</td>
<td>Memo field provided for an extended job description.</td>
<td></td>
</tr>
<tr>
<td>Table Name</td>
<td>Field Name</td>
<td>DataType</td>
<td>Field Size</td>
<td>Field Description</td>
</tr>
<tr>
<td>------------</td>
<td>--------------</td>
<td>-------------------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>OASIS</td>
<td>Action</td>
<td>Text</td>
<td>6</td>
<td>&quot;6 letter code indicating action type. The entry into this field is a choice selected from the Action Codes lookup table, which be edited by the user.&quot;</td>
</tr>
<tr>
<td></td>
<td>ActionQty</td>
<td>&quot;Number, Long Integer&quot;</td>
<td>4</td>
<td>Actual quantity of work done on this job.</td>
</tr>
<tr>
<td></td>
<td>ActionUnit</td>
<td>Text</td>
<td>50</td>
<td>&quot;Unit of work associated with the action (lnft, cuyd, cubic meters, etc.).&quot;</td>
</tr>
<tr>
<td></td>
<td>WOHours</td>
<td>&quot;Number, Single&quot;</td>
<td>4</td>
<td>Labor or crew hours to complete task.</td>
</tr>
<tr>
<td></td>
<td>Source</td>
<td>Text</td>
<td>15</td>
<td>Source of notification of problem.</td>
</tr>
<tr>
<td></td>
<td>Assignment</td>
<td>Text</td>
<td>50</td>
<td>&quot;Crew or contractor this action is assigned to perform the work. The entry into this field is a choice selected from the Assignments lookup table, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td></td>
<td>ReportedBy</td>
<td>Text</td>
<td>75</td>
<td>Description of document/individual/crew that reported the problem.</td>
</tr>
<tr>
<td></td>
<td>CallbackRequired</td>
<td>Yes/No</td>
<td>1</td>
<td>Not used at this time.</td>
</tr>
<tr>
<td></td>
<td>DateReported</td>
<td>Date/Time</td>
<td>8</td>
<td>Date when problem was reported to agency.</td>
</tr>
<tr>
<td></td>
<td>TimeReported</td>
<td>Date/Time</td>
<td>8</td>
<td>Time when problem was reported to agency.</td>
</tr>
<tr>
<td></td>
<td>DateDone</td>
<td>Date/Time</td>
<td>8</td>
<td>Date when work was completed.</td>
</tr>
<tr>
<td></td>
<td>TimeDone</td>
<td>Date/Time</td>
<td>8</td>
<td>Time when work was completed.</td>
</tr>
<tr>
<td></td>
<td>ReferenceFile</td>
<td>Text</td>
<td>6</td>
<td>&quot;ID of reference file (paper, electronic, etc.) regarding this work order.&quot;</td>
</tr>
<tr>
<td></td>
<td>Program</td>
<td>Text</td>
<td>50</td>
<td>&quot;Name of the program that this action falls under, e.g. Maintenance, Repair, etc. The entry into this field is a choice selected from the Program Codes lookup table, which establishes the agency’s general program divisions, which can be edited by the user.&quot;</td>
</tr>
<tr>
<td></td>
<td>WOPreparedBy</td>
<td>Text</td>
<td>10</td>
<td>Who prepared the work order?</td>
</tr>
<tr>
<td>Table Name</td>
<td>Field Name</td>
<td>DataType</td>
<td>Field Size</td>
<td>Field Description</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>WOAccount</td>
<td>Text</td>
<td>10</td>
<td>Work order/contract ID to charge the work to.</td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td>Currency</td>
<td>8</td>
<td>&quot;Total cost of job, expressed in decimal values suitable for US dollars, Canadian dollars, English pounds, etc. or wherever decimal currency is used.&quot;</td>
<td></td>
</tr>
<tr>
<td>PMNeeded</td>
<td>Yes/No</td>
<td>1</td>
<td>Should a scheduled PM be established to handle this problem in the future?</td>
<td></td>
</tr>
<tr>
<td>PMAction</td>
<td>Text</td>
<td>5</td>
<td>&quot;Action type for the recommended PM. The entry into this field is a choice selected from the Action Codes lookup table, which can be edited by the user.&quot;</td>
<td></td>
</tr>
<tr>
<td>PMNeededFrequency</td>
<td>Text</td>
<td>10</td>
<td>&quot;Frequency, in days, between recommended PM’s. The entry into this field is a choice selected from a pre-set list of intervals ranging from one day to 20 years.&quot;</td>
<td></td>
</tr>
<tr>
<td>Barricaded</td>
<td>Yes/No</td>
<td>1</td>
<td>Is the jobsite barricaded to protect public safety?</td>
<td></td>
</tr>
<tr>
<td>Flooded</td>
<td>Yes/No</td>
<td>1</td>
<td>Is the jobsite flooded with sewage or stormwater?</td>
<td></td>
</tr>
<tr>
<td>ReportableOverflow</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;If the problem was an overflow, was it large enough to be reportable to water quality monitoring authority?&quot;</td>
<td></td>
</tr>
<tr>
<td>StructureGroup</td>
<td>Text</td>
<td>4</td>
<td>General group that the structure belongs to.</td>
<td></td>
</tr>
<tr>
<td>StructureType</td>
<td>Text</td>
<td>2</td>
<td>Structure type of this object.</td>
<td></td>
</tr>
<tr>
<td>WONotes</td>
<td>Memo</td>
<td>0</td>
<td>Memo field provided for extended description of work order activity.</td>
<td></td>
</tr>
<tr>
<td>DateModified</td>
<td>Date/Time</td>
<td>8</td>
<td>Date when the record was last modified.</td>
<td></td>
</tr>
<tr>
<td>TimeModified</td>
<td>Date/Time</td>
<td>8</td>
<td>Time when the record was last modified.</td>
<td></td>
</tr>
<tr>
<td>Priority</td>
<td>Text</td>
<td>20</td>
<td>Level of priority demanded by the work order.</td>
<td></td>
</tr>
<tr>
<td>WODef1</td>
<td>Text</td>
<td>50</td>
<td>&quot;User-defined text field, not implemented at this time.&quot;</td>
<td></td>
</tr>
</tbody>
</table>

**OASIS Table Definitions**
<table>
<thead>
<tr>
<th>Table Name</th>
<th>Field Name</th>
<th>DataType</th>
<th>Field Size</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WODef2</td>
<td>Text</td>
<td>50</td>
<td>&quot;User-defined text field, not implemented at this time.&quot;</td>
<td></td>
</tr>
<tr>
<td>WODef3</td>
<td>Text</td>
<td>50</td>
<td>&quot;User-defined text field, not implemented at this time.&quot;</td>
<td></td>
</tr>
<tr>
<td>WODef4</td>
<td>Text</td>
<td>50</td>
<td>&quot;User-defined text field, not implemented at this time.&quot;</td>
<td></td>
</tr>
<tr>
<td>WODef5</td>
<td>Text</td>
<td>50</td>
<td>&quot;User-defined text field, not implemented at this time.&quot;</td>
<td></td>
</tr>
<tr>
<td>WODef6</td>
<td>Text</td>
<td>50</td>
<td>&quot;User-defined text field, not implemented at this time.&quot;</td>
<td></td>
</tr>
<tr>
<td>WOBool1</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;User-defined yes/no field, not implemented at this time.&quot;</td>
<td></td>
</tr>
<tr>
<td>WOBool2</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;User-defined yes/no field, not implemented at this time.&quot;</td>
<td></td>
</tr>
<tr>
<td>WOBool3</td>
<td>Yes/No</td>
<td>1</td>
<td>&quot;User-defined yes/no field, not implemented at this time.&quot;</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B
Lookup Table Default Values

Organization of this appendix

This appendix contains a copy of all of the OASIS lookup tables.

As noted elsewhere, many of the OASIS data fields have “drop-down” boxes containing lists of choices to pick from. They are called - not surprisingly - “picklists”. The picklists are filled by data stored in the OASIS lookup tables which contain data such as structure types, street names, material type, etc.

You may want to have the lookup tables customized with data that is specific to your agency, but it’s a good idea to begin with the OASIS default values rather than starting with a blank slate.

NOTE: The appendix is designed so that each table begins at the top of a page. This was done to assist the task of photocopying the tables for reference and editing purposes.

Before you begin

• It’s probably a good idea to make working photocopies of each table before beginning your edits. Keep the original copies of the reports safe in the binder so they won’t be marked up with pencils
• You should be familiar and comfortable with the Windows operating system including mouse usage.

List of Tables

NOTE: Six of the tables must be customized by the agency before they are useable, and are marked as such in the list below.

This doesn’t mean you are required to modify them before you can use OASIS, it just means that the table must be modified if you choose to use it.

The other eight tables contain default values that can be used with no modification, if so desired.

• Action codes, such as "CJET" for "cleaning with hydrojet" or "CVAC" for cleaning with vac truck
• Crew assignment codes, by type of work, such as "Cleaning Crew" or "Inspection Crew"
• City and county codes - UNIQUE to each agency
• Construction method codes such as "LNI" for "Line, new installation" or "BUR" for pipe bursting
• Drainage district (drainage basin) codes - UNIQUE to each agency
• Field map ID codes - UNIQUE to each agency
• Location reference codes to describe the location of a structure, such as "intersection" or "mid-block"
• Material type codes such as "PEP" for polyethylene pipe or "VCP" for vitrified clay pipe
• Neighborhood/subdivision codes - UNIQUE to each agency
• Problem codes such as "BBU" for "basement backed up" or "SSO" for sanitary sewer overflow
• Source codes such as "Police Dept" or "Fire Dept" to indicate who report a complaint
• Street names - UNIQUE to each agency
• Structure type codes such as "MH" for regular manhole or "SA" for sanitary sewer
• ZIP Codes - UNIQUE to each agency
### Action Codes Table

<table>
<thead>
<tr>
<th>Action Code</th>
<th>Action Code Description</th>
<th>Action Unit</th>
<th>Default Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR</td>
<td>Air test</td>
<td>each</td>
<td>Inspection Crew</td>
</tr>
<tr>
<td>BAIT</td>
<td>Bait for vermin</td>
<td>each</td>
<td>Maint. Crew</td>
</tr>
<tr>
<td>BKPLAS</td>
<td>Brick plastering</td>
<td>Inft</td>
<td>Repair Crew</td>
</tr>
<tr>
<td>BKREPL</td>
<td>Brick replacement</td>
<td>Inft</td>
<td>Repair Crew</td>
</tr>
<tr>
<td>BYPASS</td>
<td>Bypass; plug/pump</td>
<td>each</td>
<td>Maint. Crew</td>
</tr>
<tr>
<td>CANCEL</td>
<td>Cancel: problem non-existent</td>
<td>each</td>
<td>N/A</td>
</tr>
<tr>
<td>CBALL</td>
<td>Clean w/ball</td>
<td>Inft</td>
<td>Cleaning Crew</td>
</tr>
<tr>
<td>CBUCKT</td>
<td>Clean w/bucket</td>
<td>Inft</td>
<td>Cleaning Crew</td>
</tr>
<tr>
<td>CDREDG</td>
<td>Clean w/dredge</td>
<td>Inft</td>
<td>Cleaning Crew</td>
</tr>
<tr>
<td>CJET</td>
<td>Clean w/hydrojet/combination jet-vac</td>
<td>Inft</td>
<td>Cleaning Crew</td>
</tr>
<tr>
<td>CKITE</td>
<td>Clean w/kite</td>
<td>Inft</td>
<td>Cleaning Crew</td>
</tr>
<tr>
<td>CLEAN</td>
<td>Cleaning: general</td>
<td>each</td>
<td>Cleaning Crew</td>
</tr>
<tr>
<td>CREL</td>
<td>Clean to relieve blockage</td>
<td>each</td>
<td>Cleaning Crew</td>
</tr>
<tr>
<td>CSCOOT</td>
<td>Clean w/scooter</td>
<td>Inft</td>
<td>Cleaning Crew</td>
</tr>
<tr>
<td>CTRWRK</td>
<td>Contract work reqd</td>
<td>each</td>
<td>N/A</td>
</tr>
<tr>
<td>CVAC</td>
<td>Clean w/vac truck</td>
<td>each</td>
<td>Cleaning Crew</td>
</tr>
<tr>
<td>DONE</td>
<td>Job done/complete</td>
<td>each</td>
<td>N/A</td>
</tr>
<tr>
<td>DUST</td>
<td>Dust for roaches</td>
<td>each</td>
<td>Maint. Crew</td>
</tr>
<tr>
<td>DYE</td>
<td>Dye test</td>
<td>each</td>
<td>Inspection Crew</td>
</tr>
<tr>
<td>ECOVER</td>
<td>Expose mh cover</td>
<td>each</td>
<td>Repair Crew</td>
</tr>
<tr>
<td>EGRATE</td>
<td>Expose cb/stormdrain grate</td>
<td>each</td>
<td>Repair Crew</td>
</tr>
<tr>
<td>EPOXY</td>
<td>Epxy injection to seal cracks</td>
<td>Inft</td>
<td>Repair Crew</td>
</tr>
<tr>
<td>GALL</td>
<td>Grout all joints in line</td>
<td>each</td>
<td>Repair Crew</td>
</tr>
<tr>
<td>GASKET</td>
<td>Gasket (re)seal</td>
<td>each</td>
<td>Repair Crew</td>
</tr>
<tr>
<td>GJOIN</td>
<td>Grout seal joint</td>
<td>each</td>
<td>Repair Crew</td>
</tr>
<tr>
<td>GMH</td>
<td>Grout seal manhole cracking</td>
<td>Inft</td>
<td>Repair Crew</td>
</tr>
<tr>
<td>GPIPA</td>
<td>Grout seal pipe cracking</td>
<td>Inft</td>
<td>Repair Crew</td>
</tr>
<tr>
<td>Action Code</td>
<td>Action Code Description</td>
<td>Action Unit</td>
<td>Default Assignment</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------</td>
<td>-------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>IAG</td>
<td>Inspection from above ground</td>
<td>each</td>
<td>Service Crew</td>
</tr>
<tr>
<td>ICB</td>
<td>Inspect catchbasin</td>
<td>each</td>
<td>Service Crew</td>
</tr>
<tr>
<td>ICR</td>
<td>Inspection by crawling crew</td>
<td>Inft</td>
<td>Inspection Crew</td>
</tr>
<tr>
<td>ICREW</td>
<td>Crew inspection by supervisor</td>
<td>each</td>
<td>N/A</td>
</tr>
<tr>
<td>ILA</td>
<td>Inspection by lamping method</td>
<td>each</td>
<td>Inspection Crew</td>
</tr>
<tr>
<td>IMH</td>
<td>Inspect manhole</td>
<td>each</td>
<td>Service Crew</td>
</tr>
<tr>
<td>IML</td>
<td>Inspect main line</td>
<td>each</td>
<td>Inspection Crew</td>
</tr>
<tr>
<td>INS</td>
<td>Inspection: general</td>
<td>each</td>
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<tr>
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</tr>
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## Action Codes Table (continued)

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<td>PAVEMH</td>
<td>Pave around manhole</td>
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## Action Codes Table (continued)

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<td>Prev. maintenance: stormdrain</td>
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## Action Codes Table (continued)

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## Crew Assignment Table

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<td>Maint. Crew</td>
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<td>N/A</td>
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<tr>
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### Location References

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<tr>
<td>Creekside</td>
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<tr>
<td>Cross-walk</td>
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<tr>
<td>Curb line</td>
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<tr>
<td>Driveway</td>
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<tr>
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<tr>
<td>E corner</td>
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<tr>
<td>E cross-walk</td>
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### Location References

N sidewalk  
NE corner  
NW corner  
Other  
Path  
Paved alley  
Private street  
Property line  
Rear of property  
Right side of property  
Roadway  
S building line  
S corner  
S cross-walk  
S curb line  
S property line  
S side  
S sidewalk  
SE corner  
Side  
Sidewalk  
Stairs  
Street center island  
SW corner  
Under building  
Unpaved alley  
W building line  
W corner  
W cross-walk  
W curb line
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Problem Codes Table

- The "Problem Default Action Code" (and description) comes from the Action Codes Table.
- The last column in the table, marked "Inspection Defect Status" indicates whether or not the problem code appears in the Inspection Details form, the Work Order form or both.

  - If the Inspection Defect Status = "1", the problem code only appears in the inspection form.
  - If the Inspection Defect Status = "2", the problem code only appears in the work order form.
  - If the Inspection Defect Status = "3", the problem code only appears in both forms.

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Street Names Table

- This table should contain the name of all of the streets and roadways in the agency’s jurisdiction.
- The table is useful though not critical to the process of building structure records. However, it is absolutely critical for the handling of work orders from the public.

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Structure Type Codes Table

- This table contains codes for all the commonly used structures in collection systems.
- Each of the structure codes must belong to one of the five Structure Groups: MH, ML, SL, CS, or ST, as shown in the 3rd column.

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Appendix C
Data Definitions

Action (Inspection Details)

**Short Description:** 6 character code for actions to be taken in response to an inspection defect.

**Full Description:** In the inspection details form for each structure, use this field to choose the appropriate action to take to fix a problem. It can be a repair, rehab, or maintenance - whatever you have listed in the Action Codes lookup table.

If you assigned a “default action” to the defect codes in the Problem Codes lookup table, OASIS will automatically enter the default action when you select the defect.

**Technical Description:** The choices available for this field are limited to what’s stored in the matching lookup table, which can be edited from the Program Administration menu.

**Data Type:** Text

**Length:** 6

Action (Work Orders)

**Short Description:** 6 character code for action taken in a work order.

**Full Description:** In a work order form, this code describes the action taken (or to be taken in the future) in response to the problem or situation entered into the “Problem” field on the work order.

**Technical Description:** The choices available for this field are limited to what’s stored in the matching lookup table, which can be edited from the Program Administration menu.

**Data Type:** Text

**Length:** 6
Action Code (Action Codes Lookup Table)

Short Description: 6 character code for action to be used on work orders, preventive maintenance, inspections, etc.

Full Description: No further description required.

Technical Description: No technical description required.

Data Type: Text

Length: 6

Action Code Description (Action Codes Lookup Table)

Short Description: 40 character description of an action code.

Full Description: This field give a further explanation of the 6 character code that appears in the first column of the Action Codes lookup table.

Technical Description: No technical description required.

Data Type: Text

Length: 40

Action Quantity (Work Orders)

Short Description: The amount of work recommended or done.

Full Description: In a work order, this field describes the quantity/amount of work done, as defined by the Action field.

Technical Description: No technical description required.

Data Type: Number, Long Integer

Length: 4
Action Quantity (Inspection Details)

**Short Description:** Recommended action quantity needed to remedy the defect.

**Full Description:** By default, OASIS enters the amount shown in the Defect Quantity field into the Action Quantity field. For instance, if the defect is 10 feet of cracked pipe, the quantity to be repaired is set at 10 feet by default. You can change it to whatever you want.

**Technical Description:** No technical description required.

**Data Type:** Number, Integer

**Length:** 2

Action Unit (Inspection Details)

**Short Description:** Unit of work associated with this action (lnft, cuyd, cubic meters, etc.)

**Full Description:** This is a fixed lookup table that contains all the popular English and Metric units of measurement.

**Technical Description:** The Action Unit lookup table is associated with the Action Codes table. When building the Action Codes tables, the Action Unit is entered at the same time.

**Data Type:** Text

**Length:** 4

Action Unit (Action Codes Lookup Table)

**Short Description:** Unit of work associated with this action (lnft, cuyd, cubic meters, etc.)

**Full Description:** This is a fixed lookup table that contains all the popular English and Metric units of measurement.

**Technical Description:** The 3rd column of the lookup table allows the end-user to associate a unit of measurement with each action.

**Data Type:** Text

**Length:** 4
Action Unit  (Work Orders)

**Short Description:** Unit of work associated with the action (lnft, cuyd, cubic meters, etc.)

**Full Description:** This is a fixed lookup table that contains all the popular English and Metric units of measurement.

**Technical Description:** The Action Unit lookup table is associated with the Action Codes table. When building the Action Codes tables, the Action Unit is entered at the same time.

**Data Type:** Text

**Length:** 50

---

Address Number  (Customer Diary)

**Short Description:** Address number of customer's address.

**Full Description:** This field holds 5 characters, and can be used to store far-ranging address numbers up to 99999 or odd-ball addresses such as 149.5 (149 1/2) or 277A.

Note: The customer's address is where the customer can be contacted - not necessarily the address of the sewer problem - although the two are frequently the same. (The address of the sewer problem should be on the work order itself.)

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 5

---

Address Number  (Structures)

**Short Description:** Address number where structure is located.

**Full Description:** This field holds 5 characters, and can be used to store far-ranging address numbers up to 99999 or odd-ball addresses such as 149.5 (149 1/2) or 277A.

In main line records, OASIS sets a default address for main lines using the addressing of the upstream structure.

**Technical Description:** No technical description required.

**Data Type:** Text
Length: 5

Address Number (Work Orders)

Short Description: Address number where work order problem is located.

Full Description: This field holds 5 characters, and can be used to store far-ranging address numbers up to 99999 or odd-ball addresses such as 149.5 (149 1/2) or 277A.

Technical Description: No technical description required.

Data Type: Text

Length: 5

Agency Work Order ID

Short Description: Agency ID (if any) from agency's paper form(s).

Full Description: OASIS automatically assigns an ID number to every work order. This is required.

However, agencies may have their own internal work order numbering system, perhaps pre-printed on paper forms. This field allows the user to put their own ID number on the work order.

OASIS can search and retrieve using this number.

Technical Description: Although search and retrieval is programmed for this number, there are no primary key restrictions, and therefore duplicates are allowed.

Data Type: Text

Length: 10

As Built Number

Short Description: ID number of as-built drawing of the structure, if different from the plan number.

Full Description: No further description required.

Technical Description: No technical description required.
Assessors Parcel Number

**Short Description:** Assessors Parcel Number (APN) that identifies the property where a structure is located. This is typically used for service lateral and septic tank records.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

Data Type: Text
Length: 25

Assigned To (Customer Information Diary)

**Short Description:** Name of staff person assigned to handle this customer

**Full Description:** No further description required.

**Technical Description:** No technical description required.

Data Type: Text
Length: 50

Assignment

**Short Description:** Crew or contractor assigned to perform the work.

**Full Description:** On the Action Codes lookup table, the 4th column of each code provides an optional place to state which crew or contractor gets the default assignment for the action.

This default is automatically entered into the work order Assignment field, if it has been entered into the table by the user.

The entry into this field is a choice selected from the Assignments lookup table, which can be edited by the user.
Technical Description: No technical description required.

Data Type: Text
Length: 50

Assignment Group (Assignments Lookup Table)

Short Description: Is this an in-house assignment or a contractor assignment?

Full Description: This field (which appears only in the Assignments lookup table) is included solely as a convenience for separating in-house crews from contractors on the Assignments list.

Technical Description: No technical description required.

Data Type: Text
Length: 15

Assignment Name (Assignments Lookup Table)

Short Description: Name or description of crew or contractor

Full Description: In the Assignments lookup table, this field is where you state the name of a crew or the name of a contractor. The list of Assignments is used to fill in the Assignment field on the work order form.

Technical Description: No technical description required.

Data Type: Text
Length: 15

Barricaded

Short Description: Is the jobsite barricaded to protect public safety?

Full Description: If you use this field to flag your barricaded jobsites, any of the “Work Order: Basic Info” reports can be set to produce a list of the barricaded locations. This can be very valuable for keeping an eye on the most problematic field problems.
**Billing Number**

**Short Description:** Customer billing number or account number, usable for a variety of billing purposes such as sewer service charges, service lateral or septic tank maintenance, etc.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1

**Built Under**

**Short Description:** Is the structure (usually a pipe) beneath a building or other improvement?

**Full Description:** Permanent structures are sometimes built on top of sewers, either intentionally or unintentionally. When this situation occurs, maintenance and repair can be difficult if not impossible.

Putting a “check” in this field will allow the structure to be identified in the OASIS “Special Conditions” reports (part of the “Miscellaneous” report category.

**Technical Description:** If this field has a “check” in it (which means “Yes”), the screen will turn the color red whenever the record is retrieved.

**Data Type:** Yes/No

**Length:** 1

**By (Customer Information Diary)**

**Short Description:** Who handled the event - in the customer service diary?

**Full Description:** This part of the Customer Info Diary indicates who handled an interaction
that took place with the customer.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

---

**Callback Required**

**Short Description:** Not used at this time in OASIS.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1

---

**City (Customer Information Diary)**

**Short Description:** City or post office of customer's address.

**Full Description:** Note: The customer's address is where the customer can be contacted - not necessarily the address of the sewer problem - although the two are frequently the same. (The city where the sewer problem is located should be on the work order itself.)

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

---

**City (Structures)**

**Short Description:** 3 letter code describing the city, town, village, etc. where the structure is located.

**Full Description:** The entry into this field is a choice selected from the City codes lookup table, which can be edited by the user.
**Technical Description:** No technical description required.

**Data Type:** Text  

**Length:** 3

---

**City (Work Orders)**

**Short Description:** 3 letter code describing the city, town, village, etc. where the work order problem is located.

**Full Description:** If the user generates a work order from a structure form, this field is filled in automatically based on what appears in the structure form.

The entry into this field is a choice selected from the City lookup table, which can be edited by the user.

**Technical Description:** No technical description required.

**Data Type:** Text  

**Length:** 3

---

**City Code**

**Short Description:** 3 letter code in the City codes lookup table describing the city(s), town(s), village(s), etc. that the agency has sewer jurisdiction over.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text  

**Length:** 3

---

**City Code Description**

**Short Description:** Description of the City code in the City codes lookup table.

**Full Description:** No further description required.
Technical Description:  No technical description required.

Data Type:  Text

Length:  50

Complaint Status  (Customer Information Diary)

Short Description:  Current status of customer service cycle

Full Description:  This part of the Customer Info Diary indicates the complaint status, i.e., it tells the user whether the complaint is new, in progress, or done, etc.

Technical Description:  This is a fixed lookup table.

Data Type:  Text

Length:  50

Condition Notes

Short Description:  Memo field to provide overall notes about the structure's condition.

Full Description:  No further description required.

To expand the size of the field so you can see everything you’re typing, press the Control key and the F2 key (together) to open the Zoom window.

Everything you type into the field will appear in reports, which will expand to fit.

Technical Description:  This is an Access memo field, which can hold 64,000 characters.

Data Type:  Memo

Length:  0

Construction/Rehab Method  (Structures)

Short Description:  3 letter code describing the type/method of construction or rehabilitation of the structure.
**Full Description:** The construction/rehab method appears on many of the Structure Condition reports. Entering data into this field will help build accurate condition assessment profile reports of the collection system.

The entry into this field is a choice selected from the Construction Method lookup table, which can be edited by the user.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 3

---

**Construction Method Code** (Construction Codes Lookup Table)

**Short Description:** 3 letter code describing construction or rehab method.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 3

---

**Construction Method Code Description** (Construction Codes Lookup Table)

**Short Description:** Extended description of construction method code.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 16

---

**Contact Name**

**Short Description:** Name of the person on-site to contact when the crew arrives.
Full Description: In large organizations such as office buildings or factories, the name of the contact person is often different from the customer's name.

Technical Description: No technical description required.

Data Type: Text
Length: 50

Contact Title

Short Description: Title of the person on-site to contact when the crew arrives, such as “Building Supt.” or “Chief Engineer”.

Full Description: In large organizations such as office buildings or factories, the title of the contact person is sometimes necessary in order to required to help identify them.

Technical Description: No technical description required.

Data Type: Text
Length: 50

Cost (Structures)

Short Description: Original construction cost of the structure or its most recent major rehabilitation.

Full Description: Expressed in decimal values suitable for US dollars, Canadian dollars, English pounds, Eurodollars, etc. or wherever decimal currency is used.

Technical Description: No technical description required.

Data Type: Currency
Length: 8

Cost (Work Orders)

Short Description: Total cost of job, either in-house crew or contract price.
**Full Description:**  Expressed in decimal values suitable for US dollars, Canadian dollars, English pounds, Eurodollars, etc. or wherever decimal currency is used.

**Technical Description:**  No technical description required.

**Data Type:**  Currency

**Length:**  8

---

**Cross Street 1**  (Structures)

**Short Description:**  Name of first cross-street nearest a structure that has a street address.

**Full Description:**  Note that a cross-street is not the same as intersection streets.

A cross-street is one of possibly two streets that straddle a block where a structure is located. An intersection street actually intersects with one or more streets.

For instance, a manhole with an address of 149 Maple St., cross-streets of 1st Ave. and 2nd Ave. would have either 1st Ave. or 2nd Ave. entered in this field.

The entry into this field is a choice selected from the Streets lookup table, which can be edited by the user.

**Technical Description:**  No technical description required.

**Data Type:**  Text

**Length:**  50

---

**Cross Street 1**  (Work Orders)

**Short Description:**  Name of first cross-street nearest a work order jobsite that has a street address.

**Full Description:**  Note that a cross-street is not the same as intersection streets.

A cross-street is one of possibly two streets that straddle a block where a work order problem is located. An intersection street actually intersects with one or more streets.

For instance, a problem with an address of 149 Maple St., cross-streets of 1st Ave. and 2nd Ave. would have either 1st Ave. or 2nd Ave. entered in this field.

The entry into this field is a choice selected from the Streets lookup table, which can be edited by the user.

**Technical Description:**  No technical description required.
**Data Type:** Text

**Length:** 50

---

**Cross Street 2 (Structures)**

**Short Description:** Name of second cross-street nearest a structure that has a street address.

**Full Description:** Note that a cross-street is not the same as intersection streets.

A cross-street is one of possibly two streets that straddle a block where a structure is located. An intersection street actually intersects with one or more streets.

For instance, a manhole with an address of 149 Maple St., cross-streets of 1st Ave. and 2nd Ave. would have either 1st Ave. or 2nd Ave. entered in this field.

The entry into this field is a choice selected from the Streets lookup table, which can be edited by the user.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

---

**Cross Street 2 (Work Orders)**

**Short Description:** Name of second cross-street nearest a work order jobsite that has a street address.

**Full Description:** Note that a cross-street is not the same as intersection streets.

A cross-street is one of possibly two streets that straddle a block where a work order problem is located. An intersection street actually intersects with one or more streets.

For instance, a problem with an address of 149 Maple St., cross-streets of 1st Ave. and 2nd Ave. would have either 1st Ave. or 2nd Ave. entered in this field.

The entry into this field is a choice selected from the Streets lookup table, which can be edited by the user.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50
Customer ID  (Customer Diary)

Short Description:  ID of customer connected to this event
Full Description:  Hidden field
Technical Description:  This is a primary key field for relational records management only.
Data Type:  Number, Long Integer
Length:  4

Customer ID  (Customers)

Short Description:  ID of customer connected to this event
Full Description:  Hidden field
Technical Description:  This is a primary key field for relational records management only.
Data Type:  AutoNumber, Long Integer
Length:  4

Date Built

Short Description:  Date of the construction, date of last replacement, or date of last major rehab of the structure.
The default beginning date is 01/01/1700, but OASIS will accept any date after the year 1.
Full Description:  No further description required.
Technical Description:  No technical description required.
Data Type:  Date/Time
Length:  8
Date Done

Short Description: Date when work was completed.
Full Description: No further description required.
Technical Description: No technical description required.
Data Type: Date/Time
Length: 8

Date Modified

Short Description: Date when the record was last modified.
Full Description: No further description required.
Technical Description: Hidden field. Used for validating records.
Data Type: Date/Time
Length: 8

Date Reported

Short Description: Date when problem was reported to agency.
Full Description: No further description required.
Technical Description: No technical description required.
Data Type: Date/Time
Length: 8

Debris Rating

Short Description: Rating of structure's debris accumulation: 1 to 4 (1 is “Severe”, 2 is “Moderate”, 3 is “OK”, and 4 is “Not rated at this time”).
Full Description: No further description required.

Technical Description: No technical description required.

Data Type: Number, Integer

Length: 2

Default Assignment

Short Description: Default crew assignment for this action.

Full Description: The entry into this field is a choice selected from the Assignments lookup table, which can be edited by the user.

Technical Description: No technical description required.

Data Type: Text

Length: 50

Default CB/SD Type Code

Short Description: 2 letter code describing the default catchbasin/stormdrain type to be entered automatically into the cb/sd structure form.

Full Description: To help speed up data-entry, a default structure type is specified in the Program Administration form for various structure types.

The entry into this field is a choice selected from the Structure Type lookup table, which can be edited by the user.

Technical Description: No technical description required.

Data Type: Text

Length: 50

Default City Code

Short Description: 3 letter code describing the default city name to be entered into structure and work order forms.
Full Description: To help speed up data-entry, a default city code is specified in the Program Administration form to be used on each OASIS form where the city/town/village data field is used. The entry into this field is a choice selected from the City Codes lookup table, which can be edited by the user.

Technical Description: No technical description required.

Data Type: Text
Length: 3

Default Main Line Type Code

Short Description: 2 letter code describing the default main line type to be entered automatically into the main line structure form.

Full Description: To help speed up data-entry, a default structure type is specified in the Program Administration form for various structure types.

The entry into this field is a choice selected from the Structure Type lookup table, which can be edited by the user.

Technical Description: No technical description required.

Data Type: Text
Length: 50

Default Manhole Type Code

Short Description: 2 letter code describing the default manhole type to be entered automatically into the manhole structure form.

Full Description: To help speed up data-entry, a default structure type is specified in the Program Administration form for various structure types.

The entry into this field is a choice selected from the Structure Type lookup table, which can be edited by the user.

Technical Description: No technical description required.

Data Type: Text
Length: 50
Default State Code

**Short Description:** 2 letter code describing the default state/province name to be entered into customer service forms.

**Full Description:** In anticipation of OASiS users who may wish to run automated customer mailing programs using OASIS data, this field was included to ensure a complete address was available in the OASIS tables.

The entry into this field is a choice selected from a pre-set list of states in the USA.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 2

---

Defect Code

**Short Description:** 3 letter code for defect or observation reported on the Inspection Details form.

**Full Description:** Codes are available to describe three types of inspection observations: a structural defect, a maintenance deficiency, or a structural feature such as a service tap (which is neither a defect nor a maintenance deficiency.)

Codes are determined by user and stored in a lookup table.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 3

---

Defect Ends

**Short Description:** Distance reading at the end of the defect.

**Full Description:** Location in structure (usually a pipe) where an observed defect ends. This measurement can be expressed to 1 decimal point to accommodate readings of less than 1 meter.

**Technical Description:** No technical description required.
**Defect Quantity**

**Short Description:** Defect quantity, usually a measurement in feet or meters.

**Full Description:** OASIS initially sets the Defect Quantity by subtracting the Defect Starts value from the Defect Ends value.

For example, if a section of cracked pipe begins at distance marker 213 and ends and marker 223, OASIS will enter a default value of “10” into the Defect Quantity field.

Note: By default, OASIS enters the amount shown in the Defect Quantity field into the Action Quantity field. For instance, if the defect is 10 feet of cracked pipe, the quantity to be repaired is set at 10 feet by default. You can change it to whatever you want.

**Technical Description:** No technical description required.

**Data Type:** Number, Integer

**Length:** 2

---

**Defect Starts**

**Short Description:** Distance reading at the start of the defect.

**Full Description:** Location in structure (usually a pipe) where an observed defect begins. This measurement can be expressed to 1 decimal point to accommodate readings of less than 1 meter.

**Technical Description:** No technical description required.

**Data Type:** Number, Single

**Length:** 4

---

**Defect Unit**

**Short Description:** Unit of measurement used to describe defect or observation.
**Depth**

**Short Description:** Depth of the structure, in feet or meters.

**Full Description:** Depths of main lines, service laterals, and septic tanks must be entered by user.

Manhole and catchbasin/stormdrain depths are calculated automatically if the rim and elevation values are entered.

This field interacts with the Rim Elevation field and the Invert Elevation field as follows:

If the user enters the rim elevation and the depth, OASIS will calculate the invert elevation.

If the user enters the invert elevation and the depth, OASIS will calculate the rim elevation.

If the user enters the rim elevation and the invert elevation, OASIS will calculate the depth.

Note the “Clear depth and elevations to re-enter” button. This should be clicked whenever new/edited values are being added to existing values.

**Technical Description:** No technical description required.

**Data Type:** Number, Single

**Length:** 4

---

**Discharger ID**

**Short Description:** Unique ID (if any) assigned to the service lateral discharger, used primarily for monitoring industrial waste dischargers.

**Full Description:** Agencies frequently identify industrial waste dischargers with an ID number used to track the monitoring records of the discharger. This field accommodates that ID number.

**Technical Description:** No technical description required.
Data Type:  Text
Length:  50

Downstream Pipe Invert

Short Description:  Invert of the pipe where it connects to the downstream mh.

Full Description:  This field is of value only if the pipe invert is different from the manhole invert, as is commonly found in drop manholes.

Note that this value is stored with the pipe, not the manhole, because it is designed to help establish the slope of the pipe segment, which is (strictly speaking) unrelated to the invert of the manhole.

Technical Description:  No technical description required.

Data Type:  Number, Single
Length:  4

Doc ID  (Customer Information Diary)

Short Description:  ID of customer-related document prepared (if any) for this event

Full Description:  This part of the Customer Info Diary identifies each piece of correspondence with a customer if it is given an ID number for filing purposes and future retrieval, if/when needed.

Technical Description:  No technical description required.

Data Type:  Text
Length:  50

Downstream Manhole

Short Description:  Structure Identification Number (SID) of the downstream manhole in a main line record.

Full Description:  No further description required.

Technical Description:  Note the size limitation of 16 characters.
Downstream Manhole Location

**Short Description:** Short description of the location of the downstream manhole on a main line.

**Full Description:** This field is filled in automatically by OASIS using whatever street addressing was entered into the manhole’s primary record.

**Technical Description:** No technical description required.

---

Drainage District  (Drainage District Lookup Table)

**Short Description:** 10 letter code describing the drainage district, basin, sub-basin, catchment, etc. where the structure is located.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

---

Drainage District  (Structures)

**Short Description:** Drainage district, drainage basin, catchment where the structure is located.

**Full Description:** The entry into this field is a choice selected from the Drainage District lookup table, which can be edited by the user.

There are many reports in OASIS that can group and/or sort data on this field.

**Technical Description:** No technical description required.

---
Length: 10

Drainage District  (Work Orders)

Short Description: Drainage district, drainage basin, catchment where the work order problem is located.

Full Description: If the user generates a work order from a structure form, this field is filled in automatically based on what appears in the structure form.

The entry into this field is a choice selected from the Drainage District lookup table, which can be edited by the user.

There are many reports in OASIS that can group and/or sort data on this field.

Technical Description: No technical description required.

Data Type: Text

Length: 10

Drainage District Description  (Drainage District Lookup Table)

Short Description: Extended description of drainage district.

Full Description: No further description required.

Technical Description: No technical description required.

Data Type: Text

Length: 50

Drains To

Short Description: Structure ID (SID) of the pipe or manhole that a service lateral or catchbasin/stormdrain drains to.

Full Description: This field describes a direct pipe connection to a manhole or main line and provides linkage of service laterals and catchbasins/stormdrains to the rest of the collection system.

Technical Description: No technical description required.
Data Type: Text
Length: 33

Downstream Stationing

Short Description: Stationing of the downstream manhole on the sewer line.

Full Description: Note that stationing is only stored with a main line record - not a manhole record - because a single manhole can be part of several main lines, each of which have different stationing runs.

Technical Description: No technical description required.

Data Type: Number, Integer
Length: 2

Easement (Structures)

Short Description: Is the structure located in an easement or right-of-way?

Full Description: If this field is used consistently, there are OASIS reports you can run that will list all the structures located in easements.

Technical Description: No technical description required.

Data Type: Yes/No
Length: 1

Easement (Work Orders)

Short Description: Is the jobsite located in an easement?

Full Description: No further description required.

Technical Description: No technical description required.

Data Type: Yes/No
Length: 1

Engineering Notes

**Short Description:** Memo field to provide engineering/technical notes about the structure

**Full Description:** No further description required.

To expand the size of the field so you can see everything you’re typing, press the Control key and the F2 key (together) to open the Zoom window.

Everything you type into the field will appear in reports, which will expand to fit.

**Technical Description:** This is an Access memo field, which can hold 64,000 characters.

**Data Type:** Memo

**Length:** 0

---

Event Date  (Customer Information Diary)

**Short Description:** Date this customer interaction occurred

**Full Description:** This part of the Customer Info Diary indicates the date when some form of interaction took place with the customer.

**Technical Description:** No technical description required.

**Data Type:** Date/Time

**Length:** 8

---

Field Map  (Field Map Lookup Table)

**Short Description:** ID number/description of field map that shows where the structure is located.

**Full Description:** Manhole numbering schemes often incorporate the ID of the field map that contains the manhole to make it easier to locate.

**Technical Description:** No technical description required.
Data Type: Text
Length: 20

Field Map ID (Structures)

Short Description: ID number or name of collection system field map where the structure is located.

Full Description: The entry into this field is a choice selected from the Field Map lookup table, which can be edited by the user.

Technical Description: No technical description required.

Data Type: Text
Length: 20

Field Map ID (Work Orders)

Short Description: ID number or name of collection system field map where the work order problem is located.

Full Description: If the user generates a work order from a structure form, this field is filled in automatically based on what appears in the structure form. The entry into this field is a choice selected from the Field Map lookup table, which can be edited by the user.

Technical Description: No technical description required.

Data Type: Text
Length: 20

First Name (Customer Information Diary)

Short Description: First name of the customer

Full Description: This part of the Customer Info record contains the first name of the customer. This name may be different than the name of the on-site contact person.
First Priority Defects

**Short Description:** Count of structural defects classified as severe (Rating level of “1”).

**Full Description:** By default, the count of defects is automatically calculated by OASIS - using the number of such defects that appear on the structures Inspection Details form. However, you can enter any number you wish.

**Technical Description:** No technical description required.

**Data Type:** Number, Integer

**Length:** 2

Flooded

**Short Description:** Is the jobsite flooded with sewage or stormwater?

**Full Description:** If you use this field to flag your flooded jobsites, any of the “Work Order: Basic Info” reports can be set to produce a list of the flooded locations. This can be very valuable for keeping an eye on the most problematic field problems.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1

Generate Work Order?

**Short Description:** Should a WO be generated to repair the defect?

**Full Description:** If you put a “check” in this field, (which means “Yes”) and then click the “Create WOs From Marked Inspection Details” button at the bottom of the screen, OASIS will create a
work order for each defect that has a checkmark.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1

---

**Generate Preventive Maintenance WO?**

**Short Description:** Should a preventive maintenance be generated? If this field has a “check” in it (which means “Yes”), a work order will be generated to do the structure’s scheduled PM.

**Full Description:** If you put a “check” in this field, (which means “Yes”) and then click the “Generate WOs” button at the bottom of the screen, OASIS will create a work order for each pm that has a checkmark.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1

---

**Generate Inspection Work Order?**

**Short Description:** Should a preventive maintenance be generated? If this field has a “check” in it (which means “Yes”), a work order will be generated to do the structure’s scheduled inspection.

**Full Description:** If you put a “check” in this field, (which means “Yes”) and then click the “Generate WOs” button at the bottom of the screen, OASIS will create a work order for each inspection that has a checkmark.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1

---

**Grease Rating**

**Short Description:** Rating of structure's grease accumulation: 1 to 4 (1 is “Severe”, 2 is “Moderate”,...
3 is “OK”, and 4 is “Not rated at this time”).

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Number, Integer

**Length:** 2

---

**Hazard**

**Short Description:** Is there some aspect of the structure (or the immediate area) that is extraordinarily hazardous to inspect and/or maintain?

**Full Description:** This field will flag structures that have an unusually hazard(s), perhaps because of their design (extra-deep manhole or inside-drop manhole) or because it is near an industrial waste discharger or because it is in the middle of a freeway, etc.

If this field has a “check” in it (which means “Yes”), the screen will turn the color red whenever the record is retrieved.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1

---

**Head End**

**Short Description:** Is this manhole at the head end of a pipe? In other words, is it NOT connected UPSTREAM to another manhole?

**Full Description:** This field is intended to flag the manholes that are at the top end of main line branches, i.e., “beginning” manholes.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1
Inflow Infiltration Rating

**Short Description:** Rating of infiltration and inflow (I & I) into the structure: 1 to 4 (1 is “Severe”, 2 is “Moderate”, 3 is “OK”, and 4 is “Not rated at this time”).

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Number, Integer

**Length:** 2

Inspect ID

**Short Description:** ID number of an inspection detail record.

**Full Description:** This is a hidden field.

**Technical Description:** No technical description required.

**Data Type:** AutoNumber, Long Integer

**Length:** 4

Inspection Crew

**Short Description:** ID of the crew that did the last inspection.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

Inspection Crew Hours

**Short Description:** Number of crew hours required to do inspection.
**Full Description:** If this field is used consistently, there are OASIS reports that will summarize the number of crew hours spent doing inspections.

These reports are very useful for determining the correct level of resources needed to inspect the collection system.

**Technical Description:** No technical description required.

**Data Type:** Number, Single

**Length:** 4

---

**Inspection Defect Status**

**Short Description:** Should the problem appear on the picklist of inspection defects (1), the work order problem list (2), both lists (3)?

**Full Description:** OASIS uses a combined Problem codes lookup table. It combines problems that show up in inspections (inspection defects) with problems that show up in work orders.

The sixth column in this table is labeled “Inspection Defect Status”. In this column you indicate where you want this code to be used in OASIS. This is a required field.

There are three choices: A code can be used in inspection details (choice 1), work orders (choice 2) or both (choice 3).

The reason for making a choice is that some problems naturally appear in inspections, (e.g., cracked pipe or service lateral taps), some naturally appear in work orders (e.g., basement backed up or manhole cover missing) and some appear in both (e.g., roots).

By indicating a choice in this column, you don’t have the drop-down boxes on the forms uselessly filled with codes that are not appropriate for that form.

For example, the problem description field on the work order form will not be filled with TV inspection codes. Likewise, the TV inspection form will not be filled with work order codes.

If you really like seeing all the codes all the time everywhere in the database, you can set all of them to choice “3”!

**Technical Description:** This is a required field.

**Data Type:** Number, Integer

**Length:** 2

---

**Inspection Detail Notes**

**Short Description:** Text field describing additional notes about the defect.
**Full Description:** Although most of the condition information is captured by other fields in the inspection detail, this field is available for note-keeping about the detail.

**Technical Description:** Note: This is not an Access memo field.

**Data Type:** Text

**Length:** 26

---

### Inspection Entry Point

**Short Description:** Did the inspection begin at the upstream or downstream mh?

**Full Description:** This field is important when reviewing inspection tapes or data because it establishes where the inspection defects are referenced from. Most of the time TV inspections begin at the upstream end, but sometimes they must begin at the downstream end because there is no other alternative (missing manhole at the upstream end, for instance).

And sometimes, inspections start from one direction, and half way through the camera is removed because of collapsed pipe and the inspection continues from the other end.

This field is similar to (and somewhat overlaps) the Measured From field on the Inspection Details form. The Inspection Entry Point field references the entire inspection. The Measured From field references each inspection detail.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 2

---

### Inspection Form ID

**Short Description:** ID of agency's paper inspection form.

**Full Description:** Agencies may have their own internal inspection numbering system, perhaps pre-printed on paper forms such as inspection logs. This field allows the user to put their own ID number in the inspection record.

**Technical Description:** No technical description required.

**Data Type:** Text
Length: 50

Inspection Frequency

**Short Description:** Frequency, in days, between scheduled inspections. The entry into this field is a choice selected from a pre-set list of intervals ranging from one day to 20 years.

**Full Description:** No further description required.

**Technical Description:** This is a fixed lookup table and is not editable by the user.

**Data Type:** Number, Integer

Length: 2

Inspection Group ID

**Short Description:** Identification number of the inspection sequencing group that the structure belongs to (if any).

**Full Description:** If the agency is using sequenced preventive maintenance, this field identifies the group that the structure is a part of.

**Technical Description:** No technical description required.

**Data Type:** Text

Length: 50

Inspection Last Done

**Short Description:** Date of the last inspection of the structure, to be updated every time an inspection is done.

**Full Description:** This field interacts with the Inspection Next Due field and the Inspection Late field.

OASIS adds the value from the Inspection Frequency field to the Inspection Last Done date to determine two things:

- When the inspection is next due
- Whether or not the Inspection Next Due is now late, because the Inspection Next Due date is in the past.

**Technical Description:** The Inspection Late field is a calculated field that is populated by the query that drives the form. It is not a static field in the database because it reflects a constantly changing value: whether or not an inspection is late - which changes as a function of time passing.

**Data Type:** Date/Time

**Length:** 8

### Inspection Method

**Short Description:** 3 letter code describing the method used to inspect this structure. The entry into this field is a choice selected from a pre-set list of inspection methods.

**Full Description:** No further description required.

**Technical Description:** This is a fixed lookup table and is not editable by the user.

**Data Type:** Text

**Length:** 3

### Inspection Next Due

**Short Description:** Date when the next scheduled inspection is due.

**Full Description:** This field interacts with the Inspection Last Done field and the Inspection Late field.

OASIS adds the value from the Inspection Frequency field to the Inspection Last Done date to determine two things:

- When the inspection is next due
- Whether or not the Inspection Next Due is now late, because the Inspection Next Due date is in the past.

**Technical Description:** The Inspection Late field is a calculated field that is populated by the query that drives the form. It is not a static field in the database because it reflects a constantly changing value: whether or not an inspection is late - which changes as a function of time passing.

**Data Type:** Date/Time
**Inspection Notes**

**Short Description:** Memo field to provide notes about the inspection.

**Full Description:** No further description required.

To expand the size of the field so you can see everything you’re typing, press the Control key and the F2 key (together) to open the Zoom window.

Everything you type into the field will appear in reports, which will expand to fit.

**Technical Description:** This is an Access memo field, which can hold 64,000 characters.

**Data Type:** Memo

**Length:** 0

**Inspection Quick Rating**

**Short Description:** Quick rating assigned to overall condition of structure: 1 to 4 (1 is “Severe”, 2 is “Moderate”, 3 is “OK”, and 4 is “Not rated at this time”).

**Full Description:** This field is designed to provide a broad overall rating of the condition of the structure.

It does not substitute for the individual ratings of specific characteristics listed on the “Condition” tab, but it does give a “single-value” rating for the structure.

**Technical Description:** No technical description required.

**Data Type:** Number, Integer

**Length:** 2

**Inspection Sequence ID**

**Short Description:** Number that determines a structure’s place in the inspection sequence.

**Full Description:** If the agency is using sequenced preventive maintenance, this field identifies the sequence that a structure falls into within a group.
**Technical Description:** No technical description required.

**Data Type:** Number, Integer

**Length:** 2

---

**Inspection Tape ID**

**Short Description:** ID of the TV tape containing the last inspection.

**Full Description:** This field can also be used to identify a CD or DVD, etc. that was used to store the inspection data.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

---

**Inspection Tape Index**

**Short Description:** VCR/tape index counter reading, at the beginning of the inspection.

**Full Description:** This field can also be used to identify a numeric counter on a CD or DVD, etc. indicating the location of the inspection data.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

---

**Intersection? (Structures)**

**Short Description:** Is the structure located in an intersection?

**Full Description:** If this field has a “check” in it (meaning “Yes”), the location of the structure is in an intersection), and its address will be formed automatically using the “Street” field and the first cross-street field.
Technical Description: OASIS forms contain fields for describing both intersections and street addresses. Depending on what the user selects, the appropriate combination of fields become visible.

Data Type: Yes/No
Length: 1

Intersection? (Work Orders)

Short Description: Is the problem located in an intersection?

Full Description: If this field has a “check” in it (meaning “Yes”), the location of the sewer problem is in an intersection, and its address will be formed automatically using the “Street” field and the first cross-street field.

Technical Description: OASIS forms contain fields for describing both intersections and street addresses. Depending on what the user selects, the appropriate combination of fields become visible.

Data Type: Yes/No
Length: 1

Invert Elevation

Short Description: Invert elevation of the manhole or catchbasin/stormdrain

Full Description: This field interacts with the Rim Elevation field and the Depth field as follows:
If the user enters the rim elevation and the depth, OASIS will calculate the invert elevation.
If the user enters the invert elevation and the depth, OASIS will calculate the rim elevation.
If the user enters the rim elevation and the invert elevation, OASIS will calculate the depth.
Note the “Clear depth and elevations to re-enter” button. This should be clicked whenever new/edited values are being added to existing values.

Technical Description: No technical description required.

Data Type: Number, Single
Length: 4

Last Name (Customer Information Diary)

**Short Description:** Last name of the customer

**Full Description:** This part of the Customer Info record contains the last name of the customer. This name may be different than the name of the on-site contact person.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

Length

**Short Description:** Length of the structure, usually the length of a main line pipe, service lateral pipe, or septic tank, expressed in feet or meters.

**Full Description:** The length of pipe structures will be calculated automatically from two stationing values if both are present. The length of a pipe is automatically entered into the structure's pm schedule as the default Workload value.

**Technical Description:** No technical description required.

**Data Type:** Number, Single

**Length:** 4

Location Notes (Structures)

**Short Description:** Memo field to provide expanded description of the structure's location.

**Full Description:** No further description required.

To expand the size of the field so you can see everything you’re typing, press the Control key and the F2 key (together) to open the Zoom window.

Everything you type into the field will appear in reports, which will expand to fit.
Technical Description: This is an Access memo field, which can hold 64,000 characters.

Data Type: Memo

Length: 0

Location Notes  (Work Orders)

Short Description: Memo field provided for an extended description of work order location.

Full Description: No further description required.

To expand the size of the field so you can see everything you’re typing, press the Control key and the F2 key (together) to open the Zoom window.

Everything you type into the field will appear in reports, which will expand to fit.

Technical Description: This is an Access memo field, which can hold 64,000 characters.

Data Type: Memo

Length: 0

Location Quick Reference  (Structures)

Short Description: List of popular landmarks that help field crews locate a structure in the field.

Full Description: The entry into this field is a choice selected from the Location Reference lookup table, which can be edited by the user.

Technical Description: No technical description required.

Data Type: Text

Length: 26

Location Quick Reference  (Work Orders)

Short Description: List of popular landmarks that help field crews locate a sewer problem in the field.

Full Description: The entry into this field is a choice selected from the Location Reference
lookup table, which can be edited by the user.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 26

---

**Location Reference (Location Reference Lookup Table)**

**Short Description:** Short-hand description of popular locations and landmarks as they are found in the field.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 30

---

**Material (Structures)**

**Short Description:** 3 letter code to describe the type of material that a structure is constructed of.

**Full Description:** The entry into this field is a choice selected from the Material Type lookup table, which can be edited by the user.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 3

---

**Material Type Code (Material Type Lookup Table)**

**Short Description:** 3 letter code to describe the type of material that a structure is constructed of.

**Full Description:** No further description required.

**Technical Description:** No technical description required.
Data Type: Text
Length: 3

Material Type Description  (Material Type Lookup Table)

Short Description: Extended description of material type.
Full Description: No further description required.
Technical Description: No technical description required.
Data Type: Text
Length: 20

Measured From

Short Description: Direction that the defect is measured from: “U” for upstream manhole and “D” for downstream manhole.
Full Description: This field is important when reviewing inspection tapes or data because it establishes where the inspection defects are referenced from.

Most of the time TV inspections begin at the upstream end, but sometimes they must begin at the downstream end because there is no other alternative (missing manhole at the upstream end, for instance).

And sometimes, inspections start from one direction, and half way through the camera is removed because of collapsed pipe and the inspection continues from the other end.

This field is similar to (and somewhat overlaps) the Inspection Entry field on the Inspection tab of a structure form. The Inspection Entry Point field references the entire inspection. The Measured From field references each inspection detail.

Technical Description: No technical description required.
Data Type: Text
Length: 50
Method  (Customer Information Diary)

**Short Description:** Method of communicating with customer

**Full Description:** This part of the Customer Info Diary indicates the method of communication (phone, mail, email, etc.) used to interact with the customer.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

---

Miscellaneous Notes

**Short Description:** Memo field to provide miscellaneous notes regarding the structure.

**Full Description:** No further description required.

To expand the size of the field so you can see everything you’re typing, press the Control key and the F2 key (together) to open the Zoom window.

Everything you type into the field will appear in reports, which will expand to fit.

**Technical Description:** This is an Access memo field, which can hold 64,000 characters.

**Data Type:** Memo

**Length:** 0

---

Neighborhood  (ZIP Codes Lookup Table)

**Short Description:** Neighborhood where the ZIP code is located.

**Full Description:** This field is included in this lookup table to help the end user keep track of which postal codes are where.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 3
Neighborhood  (Structures)

**Short Description:** 3 letter code describing the neighborhood, subdivision, borough, district, etc. where the structure is located. The entry into this field is a choice selected from the Neighborhood lookup table, which can be edited by the user.

**Full Description:** The entry into this field is a choice selected from the Neighborhood lookup table, which can be edited by the user.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 3

Neighborhood  (Work Orders)

**Short Description:** 3 letter code describing the neighborhood, subdivision, borough, district, etc. where the structure is located.

**Full Description:** If the user generates a work order from a structure form, this field is filled in automatically based on what appears in the structure form.

The entry into this field is a choice selected from the Neighborhood lookup table, which can be edited by the user.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 3

Neighborhood Code  (Neighborhood Lookup Table)

**Short Description:** 3 letter code describing a neighborhood, subdivision, borough, district, etc.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text
**Neighborhood Code Description** (Neighborhood Lookup Table)

**Short Description:** Extended description of a Neighborhood Code.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

---

**Notes** (Customer Information Diary - Communication Records)

**Short Description:** Notes about what happened when there was contact with the customer.

**Full Description:** This part of the Customer Info Diary stores notes about the contact event.

Although the screen space appears relatively small, the amount of data that can fit into this field is practically infinite.

To expand the size of the field so you can see everything you’re typing, press the Control key and the F2 key (together) to open the Zoom window.

Everything you type into the field will appear in the customer reports, which will expand to fit.

**Technical Description:** No technical description required.

**Data Type:** Memo

**Length:** 0

---

**Notes** (Customer Information Diary - Customer Record)

**Short Description:** Memo field containing additional notes about the customer.

**Full Description:** No further description required.

To expand the size of the field so you can see everything you’re typing, press the Control key and the F2 key (together) to open the Zoom window.
Everything you type into the field will appear in reports, which will expand to fit.

**Technical Description:** This is an Access memo field, which can hold 64,000 characters.

**Data Type:** Memo

**Length:** 0

---

**OASISBE version XXX**

**Short Description:** This field is only used to identify the version of the backend database. There is no user input for this field.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1

---

**Odor Rating**

**Short Description:** Rating of unacceptably bad odors in/around the structure: 1 to 4 (1 is “Severe”, 2 is “Moderate”, 3 is “OK”, and 4 is “Not rated at this time”).

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Number, Integer

**Length:** 2

---

**Organization Name (Customer Information Diary)**

**Short Description:** Customer's organization/company name

**Full Description:** No further description required.

**Technical Description:** No technical description required.
Data Type: Text
Length: 50

Other Structure Type Description

Short Description: Description of a structure belonging to the “Other” group. Not currently implemented in OASIS.
Full Description: No further description required.
Technical Description: No technical description required.

Data Type: Text
Length: 20

Phone Numbers (Customer Information Diary)

Short Description: Phone number(s) where the customer or on-site contact can be reached.
Full Description: No further description required.

To expand the size of the field so you can see everything you’re typing, press the Control key and the F2 key (together) to open the Zoom window.

Everything you type into the field will appear in reports, which will expand to fit.

Technical Description: This is an Access memo field, which can hold 64,000 characters.

Data Type: Memo
Length: 0

Plan Number

Short Description: ID number of plan/design drawing of the structure.
Full Description: No further description required.
Technical Description: No technical description required.
Data Type: Text  
Length: 25

PM Action (Work Orders)

**Short Description:** Action type for the recommended PM.

Part of CMOM compliance (and best management practices in general) requires that the pm schedule for the collection system be modified to help prevent overflows.

If the Reportable Overflow? field on the work order is checked (meaning “Yes”), then a recommended pm (if applicable) should be listed here and eventually added to the pm schedule.

This field defines the recommended pm action.

**Technical Description:** No technical description required.

Data Type: Text  
Length: 5

PM Calculation

**Short Description:** This field is used for temporary calculations during PM forecasting. PM forecasting is not implemented in OASIS at this time.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

Data Type: Number, Long Integer  
Length: 4

PM Crew

**Short Description:** ID of crew assigned to do this PM.

**Full Description:** No further description required.

**Technical Description:** No technical description required.
Data Type: Text
Length: 50

PM Crew Hours

Short Description: Crew hours needed to do this PM.

Full Description: If this field is used consistently, there are OASIS reports that will summarize the number of crew hours spent doing preventive maintenance.

These reports are very useful for determining the correct level of resources needed to maintain the collection system.

Technical Description: No technical description required.

Data Type: Number, Single
Length: 4

PM Forecast Group

Short Description: The number of the forecast group that dictates this due date. PM forecasting is not implemented at this time.

Full Description: No further description required.

Technical Description: No technical description required.

Data Type: Number, Long Integer
Length: 4

PM Frequency

Short Description: Frequency, in days, between scheduled PM's. The entry into this field is a choice selected from a pre-set list of intervals ranging from one day to 20 years.

Full Description: No further description required.

Technical Description: No technical description required.
**Data Type:** Number, Integer  
**Length:** 2

**PM Group ID (PM Table)**  
**Short Description:** Identification number of the preventive maintenance sequencing group that the structure belongs to (if any).  
**Full Description:** No further description required.  
**Technical Description:** This is a read-only field.

**Data Type:** Text  
**Length:** 50

**PM Group ID (Structures)**  
**Short Description:** Identification number of the preventive maintenance sequencing group that the structure belongs to (if any).  
**Full Description:** No further description required.  
**Technical Description:** No technical description required.

**Data Type:** Text  
**Length:** 50

**PM ID**  
**Short Description:** PM record ID number  
**Full Description:** This is a hidden field.  
**Technical Description:** No technical description required.

**Data Type:** AutoNumber, Long

**Length:** 4
PM Last Done

**Short Description:** Date when the pm was last done, to be updated every time the pm is done.

**Full Description:** This field interacts with the PM Next Due field and the PM Late field. OASIS adds the value from the PM Frequency field to the PM Last Done date to determine two things:

- When the pm is next due
- Whether or not the PM Next Due is now late, because the PM Next Due date is in the past.

**Technical Description:** The PM Late field is a calculated field that is populated by the query that drives the form. It is not a static field in the database because it reflects a constantly changing value: whether or not a pm is late - which changes as a function of time passing.

**Data Type:** Date/Time

**Length:** 8

PM Needed (Work Orders)

**Short Description:** Should a scheduled PM be established to handle this problem in the future?

**Full Description:** Part of CMOM compliance (and best management practices in general) requires that the pm schedule for the collection system be modified to help prevent overflows.

If the Reportable Overflow? field on the work order is checked (meaning “Yes”), then a recommended pm (if applicable) should be listed here and eventually added to the pm schedule.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1

PM Needed Frequency (Work Orders)

**Short Description:** Frequency, in days, between recommended PM’s. The entry into this field is a choice selected from a pre-set list of intervals ranging from one day to 20 years.

**Full Description:** Part of CMOM compliance (and best management practices in general)
requires that the pm schedule for the collection system be modified to help prevent overflows.

If the Reportable Overflow? field on the work order is checked (meaning “Yes”), then a recommended pm (if applicable) should be listed here and eventually added to the pm schedule.

This field defines the recommended frequency of the new pm.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 10

---

**PM Next Due**

**Short Description:** Date when the PM is scheduled next to be done.

**Full Description:** This field interacts with the PM Last Done field and the PM Late field.

OASIS adds the value from the PM Frequency field to the PM Last Done date to determine two things:

- When the pm is next due
- Whether or not the PM Next Due is now late, because the PM Next Due date is in the past.

**Technical Description:** The PM Late field is a calculated field that is populated by the query that drives the form. It is not a static field in the database because it reflects a constantly changing value: whether or not a pm is late - which changes as a function of time passing.

**Data Type:** Date/Time

**Length:** 8

---

**PM Notes**

**Short Description:** Memo field to provide notes about this PM.

**Full Description:** No further description required.

To expand the size of the field so you can see everything you’re typing, press the Control key and the F2 key (together) to open the Zoom window.

Everything you type into the field will appear in reports, which will expand to fit.

**Technical Description:** This is an Access memo field, which can hold 64,000 characters.
**PM Sequence ID**

**Short Description:** Number that determines the structures place in the preventive maintenance sequence, if any.

**Full Description:** No further description required.

**Technical Description:** This is a read-only field.

**Data Type:** Number, Integer

**Length:** 2

**PM Type**

**Short Description:** Type of PM. The entry into this field is a choice selected from the Action Codes lookup table, which defines various maintenance activities, which can be edited by the user.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 6

**PM Unit**

**Short Description:** Unit of work associated with the PM (lnft, cuyd, cubic meters, etc.)

**Full Description:** This is a fixed lookup table that contains all the popular English and Metric units of measurement.

**Technical Description:** No technical description required.

**Data Type:** Text
PM Workload

**Short Description:** Amount of work done with this PM, usually measured in feet, meters, each, etc.

**Full Description:** Note: The length of a pipe (if it has been entered or calculated from stationing values) is automatically entered into the structure’s pm schedule as the default Workload value.

**Technical Description:** No technical description required.

**Data Type:** Number, Integer

**Length:** 4

Priority (Work Orders)

**Short Description:** Level of priority demanded by the work order: 1 to 4 (1 is “High”, 2 is “Medium”, 3 is “Low”, and 4 is “Preventive Maintenance”).

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 2

Priority Level ((Inspection Details))

**Short Description:** 2 letter code to describe the type and priority of the defect in an inspection detail.

**Full Description:** The priority levels are separated into groups so the defect analysis reports will make sense. There are many standard reports in OASIS that will correctly list defects as grouped below. The bottom line is obtaining accurate cost estimates (via the reports) for each type of problem.

a) The joint defects are separated from the pipe defects because the repairs/rehab of joints (e.g., joint sealing to prevent inflow/infiltration) is significantly different from pipe repair.

b) The maintenance problems are separated from the structural defects because they are two widely
separated types of events.
c) An “N/A” group is provided to categorize neutral observations such as service tap locations, etc.

These are the Priority Level groups:

J1 - Joint defect - priority 1
J2 - Joint defect - priority 2
J3 - Joint defect - priority 3
NA - Not applicable (tap location etc.)
M1 - Maintenance problem - priority 1
M2 - Maintenance problem - priority 2
M3 - Maintenance problem - priority 3
P1 - Pipe defect - priority 1
P2 - Pipe defect - priority 2
P3 - Pipe defect - priority 3
S1 - Structural defect (manhole etc.) - priority 1
S2 - Structural defect (manhole etc.) - priority 2
S3 - Structural defect (manhole etc.) - priority 3

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 2

**Privately Maintained**

**Short Description:** Is the structure privately maintained?

**Full Description:** If this field has a “check” in it (which means “Yes”), the screen will turn the color red whenever the record is retrieved.

**Technical Description:** No technical description required.
Data Type: Yes/No
Length: 1

Privatey Owned

Short Description: Is the structure privately owned?

Full Description: If this field has a “check” in it (which means “Yes”), the screen will turn the color red whenever the record is retrieved.

Technical Description: No technical description required.

Data Type: Yes/No
Length: 1

Problem (Work Orders)

Short Description: 3 letter code describing problem or field situation on a work order.

Full Description: In a work order form, this code describes the problem reported or that their is a scheduled pm due.

The entry into this field is a choice selected from the Problem Codes lookup table, which can be edited by the user.

Technical Description: No technical description required.

Data Type: Text
Length: 3

Problem Code (Problem Codes Lookup Table)

Short Description: 3 letter code describing problem or field situation on a work order or inspection.

Full Description: No further description required.
Technical Description: No technical description required.

Data Type: Text

Length: 3

Problem Code Description (Problem Codes Lookup Table)

Short Description: Extended description of problem code.

Full Description: No further description required.

Technical Description: No technical description required.

Data Type: Text

Length: 25

Problem Code Unit (Problem Codes Lookup Table)

Short Description: Unit of measurement associated with problem (lnft, cuyd, etc.).

Full Description: No further description required.

Technical Description: No technical description required.

Data Type: Text

Length: 4

Problem Default Action Code (Problem Codes Lookup Table)

Short Description: 6 letter code describing default action to be taken to fix problem.

Full Description: The entry into this field is a choice selected from the Action Codes lookup table, which can be edited by the user.

Technical Description: No technical description required.

Data Type: Text
Length: 6

Problem Default Action Code Description

(Problem Codes Lookup Table)

Short Description: Description of the default action to be taken to fix problem.

Full Description: The entry into this field is a description of a choice selected from the Action Codes lookup table, which can be edited by the user.

Technical Description: No technical description required.

Data Type: Text

Length: 40

Problem Notes

Short Description: Not used at this time in OASIS.

Full Description: No further description required.

Technical Description: No technical description required.

Data Type: Memo

Length: 0

Problem Quantity (Work Orders)

Short Description: Estimated quantity of work needed to do job.

Full Description: This field describes the quantity/amount of work to be done, as defined by the Problem field.

Technical Description: No technical description required.

Data Type: Number, Long Integer
**Problem Unit (Work Orders)**

**Short Description:** Unit of work associated with the problem (lnft, cuyd, cubic meters, etc.)

**Full Description:** This is a fixed lookup table that contains all the popular English and Metric units of measurement.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

**Program**

**Short Description:** Not used at this time in OASIS.

**Full Description:** Name of the program that this action falls under, e.g. Maintenance, Repair, etc. The entry into this field is a choice selected from the Program Codes lookup table, which establishes the agency's general program divisions, which can be edited by the user.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

**Reference File ID**

**Short Description:** ID of reference file (paper, electronic, etc.) regarding this work order.

**Full Description:** This field is useful when you have correspondence or other written materials (police reports, drawings, etc.) that pertain to the work order. You can maintain all of the paper documents in a file and then store the reference number that identifies the file in this field.

**Technical Description:** No technical description required.

**Data Type:** Text
Rehab/Replace Cost

**Short Description:** Future construction cost for the replacement or rehabilitation of the structure, expressed in decimal values suitable for US dollars, Canadian dollars, English pounds, etc. or wherever decimal currency is used.

**Full Description:** If this field is used consistently and accurately, there are a series of OASIS reports that can summarize the costs replacing/rehabilitating the collection system. This is extremely valuable for budget-development purposes.

**Technical Description:** No technical description required.

**Data Type:** Currency

**Length:** 8

Reportable Overflow

**Short Description:** If the problem was an overflow, was it large enough to be reportable to water quality monitoring authority?

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1

Reported By

**Short Description:** Description of document/individual/crew that reported the problem.

**Full Description:** The **Source Type** field is not the same as the **Reported By** field. The **Reported By** field is intended to show someone’s name and phone number. The **Source Type** field shows generic categories of sources.

**Technical Description:** No technical description required.

**Data Type:** Text
Rim Elevation

**Short Description:** Rim elevation of the manhole or catchbasin/stormdrain

**Full Description:**
This field interacts with the Invert Elevation field and the Depth field as follows:
- If the user enters the rim elevation and the depth, OASIS will calculate the invert elevation.
- If the user enters the invert elevation and the depth, OASIS will calculate the rim elevation.
- If the user enters the rim elevation and the invert elevation, OASIS will calculate the depth.

Note the “Clear depth and elevations to re-enter” button. This should be clicked whenever new/edited values are being added to existing values.

**Technical Description:** No technical description required.

**Data Type:** Number, Single

**Length:** 4

Root Rating

**Short Description:** Rating of root intrusion into the structure: 1 to 4 (1 is “Severe”, 2 is “Moderate”, 3 is “OK”, and 4 is “Not rated at this time”).

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Number, Integer

**Length:** 2

Second Priority Defects

**Short Description:** Count of structural defects classified as moderate (Rating level of “2”).

**Full Description:** By default, the count of defects is automatically calculated by OASIS -
using the number of such defects that appear on the structures Inspection Details form. However, you can enter any number you wish.

**Technical Description:** No technical description required.

**Data Type:** Number, Integer

**Length:** 2

---

**Septic Tank Capacity**

**Short Description:** Septic tank capacity, in gallons or liters.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Number, Long Integer

**Length:** 4

---

**Septic Tank Drain Field Length**

**Short Description:** Length of septic tank drain field, in feet or meters.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Number, Integer

**Length:** 2

---

**Septic Tank Drain Field Type**

**Short Description:** Style of septic tank drain field design/construction.

**Full Description:** This is a fixed lookup table and is not editable by the user.

**Technical Description:** No technical description required.
Data Type: Text  
Length: 50

Septic Tank Multi-Tank Property

Short Description: Is there more than one septic tank serving the property?
Full Description: If this field is checked (meaning “Yes”), then the property has more than one septic tank.
Technical Description: No technical description required.
Data Type: Yes/No  
Length: 1

Septic Tank Priority Class

Short Description: Level of priority for septic tank service.
Full Description: This is a fixed lookup table and is not editable by the user.
Technical Description: No technical description required.
Data Type: Text  
Length: 50

Septic Tank User Class

Short Description: Septic tank user class
Full Description: This is a fixed lookup table and is not editable by the user.
Technical Description: No technical description required.
Data Type: Text  
Length: 50
Septic Tank Water Usage

**Short Description:** Septic tank property's water usage, in gallons or liters.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Number, Long Integer

**Length:** 4

Shape

**Short Description:** 4 letter code describing the shape of the structure. Most structures are circular, but this field provides a description of those that are oddly-shaped.

**Full Description:** OASIS is programmed to compare the selection in the Shape field to the entries that appear in the Size fields. If OASIS detects that a shape OTHER than “CIRC” has been selected for this field, then the program will prompt the user to enter a value in each of the Size fields.

This is a fixed lookup table and is not editable by the user.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 4

SIC Code

**Short Description:** Standard Industrial Code for the service lateral discharger.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50
SID (Inspection Details)

Short Description: Structure Identification Number (SID) of the structure being inspected.
Full Description: No further description required.
Technical Description: This is a read-only field.
Data Type: Text
Length: 30

SID (Preventive Maintenance)

Short Description: Structure Identification Number (SID) of the structure related to this preventive maintenance activity.
Full Description: No further description required.
Technical Description: This is a read-only field.
Data Type: Text
Length: 30

SID (Structures)

Short Description: Structure Identification Number (SID) of every structure: manhole, main line, service lateral, cb/stormdrain, or septic tank. Although this field allows 33 characters, manholes are limited to 16 because two manhole ID's combine to form a main line.
SID’s must be absolutely unique within the database. In other words, a manhole and a service lateral cannot use the same SID even though they are from different structure groups.
Full Description: No further description required.
Technical Description: No technical description required.
Data Type: Text
Length: 33
SID (Work Orders)

Short Description: Structure Identification Number (SID) of structure being worked on, if the SID is known.

Full Description: This field will be automatically filled in if the work order was generated from a structure form, pm schedule, or inspection detail.

Technical Description: No technical description required.

Data Type: Text

Length: 50

Size

Short Description: Size of structure as described by combination of Size1 and Size2 (text)

Full Description: This is a hidden field.

Technical Description: This is a text field (as opposed to a number field - see Size 1 and 2) that is useful for reports where the size is NOT being used in a sum, average, max, etc. type of mathematical calculation.

Data Type: Text

Length: 50

Size1

Short Description: Size of the structure, usually expressed as the diameter of a pipe or width of a manhole, in inches or millimeters. This is the first of two structure size fields. (Only one size is needed for circular structures.)

Full Description: No further description required.

Technical Description: No technical description required.

Data Type: Number, Integer

Length: 2
<table>
<thead>
<tr>
<th>Field</th>
<th>Short Description</th>
<th>Full Description</th>
<th>Technical Description</th>
<th>Data Type</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size1And2</td>
<td>Size of structure as described by combination of Size1 and Size2 (numeric)</td>
<td>This is a hidden field.</td>
<td>This is a numeric field (as opposed to a text field - see Size) that is useful for reports where the size is being used in a sum, average, max, etc. type of mathematical calculation.</td>
<td>Number, Long Integer</td>
<td>4</td>
</tr>
<tr>
<td>Size2</td>
<td>This is the second of the two structure size fields. The second structure size is used for non-circular structures (e.g., box sewers) where two dimensions are needed to describe its size, in inches or millimeters.</td>
<td>No further description required.</td>
<td>No technical description required.</td>
<td>Number, Integer</td>
<td>2</td>
</tr>
<tr>
<td>Slope</td>
<td>Slope of the pipe, in percent</td>
<td>The value for this field can be entered directly by the user, or OASIS will automatically calculate the slope from Line Invert values and the Length, if all have been entered by the user.</td>
<td>No technical description required.</td>
<td>Number, Single</td>
<td>4</td>
</tr>
</tbody>
</table>
Source  (Work Orders)

Short Description:  Source of notification of problem.

Full Description:  The Source Type field is not the same as the Reported By field. The Reported By field is intended to show someone’s name and phone number. The Source Type field shows generic categories of sources.

The entry into this field is a choice selected from the Streets lookup table, which can be edited by the user.

Technical Description:  No technical description required.

Data Type:  Text

Length:  15

Source Type  (Source Type Lookup Table)

Short Description:  Description of common sources of complaints received by the agency.

Full Description:  No further description required.

Technical Description:  No technical description required.

Data Type:  Text

Length:  50

State  (Customer Information Diary)

Short Description:  State or province of customer’s address. Note: The customer’s address is where the customer can be contacted - not necessarily the address of the sewer problem - although the two are frequently the same. (The state where the sewer problem is located should be on the work order itself.)

Full Description:  No further description required.

Technical Description:  No technical description required.

Data Type:  Text

Length:  50
Status  (Work Orders)

Short Description:  Current status of job: Open or Done.

Full Description:  No further description required.

Technical Description:  No technical description required.

Data Type:  Text

Length:  15

Street  (Customer Information Diary)

Short Description:  Street name of customer’s address. Note: The customer’s address is where the
customer can be contacted - not necessarily the address of the sewer problem - although the two are
frequently the same. (The address of the sewer problem should by on the work order itself.)

Full Description:  No further description required.

Technical Description:  No technical description required.

Data Type:  Text

Length:  50

Street  (Structure Location)

Short Description:  Street, road, or highway name where a structure is located.

Full Description:  This can be a street name as used in a street address (example: 149 Maple
St.) or it can be used as one of two streets used to define an intersection (example: Maple St. and Peoria
St.)

In main line records, OASIS sets a default address for main lines using the addressing of the upstream
structure.

The entry into this field is a choice selected from the Streets lookup table, which can be edited by the
user.

Technical Description:  No technical description required.

Data Type:  Text
Street  (Work Orders)

**Short Description:** Street, road, or highway name where a work order problem is located.

**Full Description:** This can be a street name as used in a street address (example: 149 Maple St.) or it can be used as one of two streets used to define an intersection (example: Maple St. and Peoria St.)

If the user generates a work order from a structure form, this field is filled in automatically based on what appears in the structure form.

The entry into this field is a choice selected from the Streets lookup table, which can be edited by the user.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

Street Name  (Street Names Lookup Table)

**Short Description:** Name of a street as it should appear on structure records and work orders.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

Structural Rating

**Short Description:** Rating of the structure's physical/structural condition: 1 to 4 (1 is “Severe”, 2 is “Moderate”, 3 is “OK”, and 4 is “Not rated at this time”).

**Full Description:** No further description required.

**Technical Description:** No technical description required.
**Data Type:** Number, Integer

**Length:** 2

**Structure Code**  (Structure Type Lookup Table)

**Short Description:** 2 letter code describing the structure type.

**Full Description:** The 3rd column of this lookup table contains the field that identifies which structure group this structure type belongs to. When establishing a structure type in this field, a selection must also be made in the group (3rd) column.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 2

**Structure Code Description**  (Structure Type Lookup Table)

**Short Description:** Extended description of Structure Type code.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

**Structure Group**  (Structure Type Lookup Table)

**Short Description:** Group that the structure belongs to. Note: Each structure type must be assigned to one of these groups: “MH” (manholes), “ML” (main lines), “SL” (service laterals), “CS” (catchbasins/stormdrains), or “ST” (septic tanks).

**Full Description:** The 3rd column of this lookup table contains the field that identifies which structure group this structure type belongs to. When establishing a structure type in this field, a selection must also be made in the group (3rd) column.

**Technical Description:** No technical description required.
**Data Type:** Text

**Length:** 2

### Structure Group (Structures)

**Short Description:** General group that a structure belongs to: MH - manhole, ML - main line, SL - service lateral, CS - catchbasin/stormdrain, or ST - septic tank. OASIS assigns a structure group automatically to each new structure record based on which data form is used.

**Full Description:** No further description required.

**Technical Description:** This is a read-only field.

**Data Type:** Text

**Length:** 4

### Structure Group (Work Orders)

**Short Description:** General group that the structure belongs to.

**Full Description:** This field is automatically filled in if the Structure ID field is used.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 4

### Structure Type (Structures)

**Short Description:** 2 letter code describing the type of structure such as SA (sanitary sewer) or MH (regular manhole) or MP (pressure manhole). The entry into this field is a choice selected from the Structure Type lookup table, which can be edited by the user.

**Full Description:** The entry into this field is a choice selected from the Structure Types lookup table, which can be edited by the user.

**Technical Description:** No technical description required.

**Data Type:** Text
Structure Type (Work Orders)

**Short Description:** Structure type of this object.

**Full Description:** This field is automatically filled in if the Structure ID field is used.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 2

Sump

**Short Description:** Is the structure located in a sump that has no overland flow exit?

**Full Description:** Sometimes sewer structures - especially catchbasins and stormdrains - are installed in locations where there is no overland flow relief if the structure becomes blocked by debris.

In this case, the street or roadway will simply fill up with wastewater and create a lake. In other words, the structure is installed at a low point (a sump) where there is no way to drain the water away.

Overland flow relief usually means the wastewater flows down the curb to the next catchbasin/stormdrain that can take the flow because it is not blocked by debris.

If this field has a “check” in it (which means “Yes”), the screen will turn the color red whenever the record is retrieved.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1

Surcharge Rating

**Short Description:** Rating of evidence of surcharging in/around the structure: 1 to 4 (1 is
“Severe”, 2 is “Moderate”, 3 is “OK”, and 4 is “Not rated at this time”).

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Number, Integer

**Length:** 2

---

**Survey X**

**Short Description:** Survey value “X” of the structure, typically of a manhole or catchbasin/stormdrain.

**Full Description:** This field is not formatted, so it can accept survey data in any coordinate expression, e.g. latitude/longitude, state plane coordinates, local coordinates, etc.

**Technical Description:** No technical description required.

**Data Type:** Number, Double

**Length:** 8

---

**Survey Y**

**Short Description:** Survey value “Y” of the structure, typically of a manhole or catchbasin/stormdrain.

**Full Description:** This field is not formatted, so it can accept survey data in any coordinate expression, e.g. latitude/longitude, state plane coordinates, local coordinates, etc.

**Technical Description:** No technical description required.

**Data Type:** Number, Double

**Length:** 8

---

**Time Done**

**Short Description:** Time when work was completed.
Full Description: No further description required.
Technical Description: No technical description required.
Data Type: Date/Time
Length: 8

Time Modified
Short Description: Time when the record was last modified.
Full Description: No further description required.
Technical Description: Hidden field. Used for validating records.
Data Type: Date/Time
Length: 8

Time Reported
Short Description: Time when problem was reported to agency.
Full Description: No further description required.
Technical Description: No technical description required.
Data Type: Date/Time
Length: 8

Upstream Manhole
Short Description: Structure Identification Number (SID) of the upstream manhole in a main line record.
Full Description: No further description required.
Technical Description: Note the size limitation of 16 characters.
Data Type: Text
Length: 16

Upstream Manhole Location

Short Description: Short description of the location of the upstream manhole on a main line.
Full Description: This field is filled in automatically by OASIS using whatever street addressing was entered into the manhole's primary record.
Technical Description: No technical description required.

Data Type: Text
Length: 50

Upstream Pipe Invert

Short Description: Invert of the pipe where it connects to the upstream mh.
Full Description: This field is of value only if the pipe invert is different from the manhole invert, although this is very rare at the upstream end of a pipe segment.

It is much more common for the pipe and manhole inverts to be different at the downstream end of the pipe where drop manholes are found.

Note that this value is stored with the pipe, not the manhole, because it is designed to help establish the slope of the pipe segment, which is (strictly speaking) unrelated to the invert of the manhole.

Technical Description: No technical description required.

Data Type: Number, Single
Length: 4

UserBool1

Short Description: User-defined yes/no field, not implemented at this time.
Full Description: No further description required.
Technical Description: No technical description required.
Data Type: Yes/No
Length: 1

UserBool2

**Short Description:** User-defined yes/no field, not implemented at this time.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

Data Type: Yes/No
Length: 1

UserBool3

**Short Description:** User-defined yes/no field, not implemented at this time.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

Data Type: Yes/No
Length: 1

UserDef1

**Short Description:** User-defined text field, not implemented at this time.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

Data Type: Text
Length: 50
UserDef2

Short Description: User-defined text field, not implemented at this time.
Full Description: No further description required.
Technical Description: No technical description required.
Data Type: Text
Length: 50

UserDef3

Short Description: User-defined text field, not implemented at this time.
Full Description: No further description required.
Technical Description: No technical description required.
Data Type: Text
Length: 50

UserDef4

Short Description: User-defined text field, not implemented at this time.
Full Description: No further description required.
Technical Description: No technical description required.
Data Type: Text
Length: 50

UserDef5

Short Description: User-defined text field, not implemented at this time.
Full Description: No further description required.
Technical Description: No technical description required.

Data Type: Text

Length: 50

UserDef6

Short Description: User-defined text field, not implemented at this time.

Full Description: No further description required.

Technical Description: No technical description required.

Data Type: Text

Length: 50

Upstream Stationing

Short Description: Stationing of the upstream manhole on the sewer line.

Full Description: Note that stationing is only stored with a main line record - not a manhole record - because a single manhole can be part of several main lines, each of which have different stationing runs.

Technical Description: No technical description required.

Data Type: Number, Integer

Length: 2

Vermin Rating

Short Description: Rating of rat and roach activity in/around the structure: 1 to 4 (1 is “Severe”, 2 is “Moderate”, 3 is “OK”, and 4 is “Not rated at this time”).

Full Description: No further description required.

Technical Description: No technical description required.
Data Type: Number, Integer
Length: 2

Warranty End Date

**Short Description:** Expiration date of any warranty that has been required of a contractor for new construction or major rehabilitation of the structure.

**Full Description:** This field automatically flags structures that are still under warranty.

It is important that the party that is responsible for new construction be the one to fund any necessary follow-up work. Oftentimes, an agency will unknowingly repair a faulty structure that is still under warranty by a contractor or developer.

There are OASIS reports in the Miscellaneous category that will produce a list of structures still under warranty.

If a date entered in this field is in the future, the screen will turn the color red whenever the record is retrieved.

**Technical Description:** No technical description required.

Data Type: Date/Time
Length: 8

Work Order ID (Preventive Maintenance)

**Short Description:** PM work order ID number - the work order has been generated but not yet completed.

**Full Description:** No further description required.

**Technical Description:** This is a hidden field.

Data Type: Text
Length: 6
Work Order ID  (Structures)

Short Description: Inspection work order ID number - the work order has been generated but not yet completed.

Full Description: No further description required.

Technical Description: This is hidden field.

Data Type: Text
Length: 6

Work Order Account

Short Description: Work order/contract ID to charge the work to.

Full Description: No further description required.

Technical Description: No technical description required.

Data Type: Text
Length: 10

WOBool1

Short Description: User-defined yes/no field, not implemented at this time.

Full Description: No further description required.

Technical Description: No technical description required.

Data Type: Yes/No
Length: 1

WOBool2

Short Description: User-defined yes/no field, not implemented at this time.
**WOBool3**

**Short Description:** User-defined yes/no field, not implemented at this time.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1

**WODef1**

**Short Description:** User-defined text field, not implemented at this time.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

**WODef2**

**Short Description:** User-defined text field, not implemented at this time.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text
WODef3

**Short Description:** User-defined text field, not implemented at this time.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

WODef4

**Short Description:** User-defined text field, not implemented at this time.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

WODef5

**Short Description:** User-defined text field, not implemented at this time.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50
WODef6

**Short Description:** User-defined text field, not implemented at this time.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 50

WO Done (Inspection Details)

**Short Description:** The work order generated to repair the defect is now done.

**Full Description:** OASIS automatically generates a checkmark in this field (meaning “Yes”) when the repair or maintenance work order is complete.

**Technical Description:** No technical description required.

**Data Type:** Yes/No

**Length:** 1

WO Hours

**Short Description:** Labor or crew hours to complete task.

**Full Description:** It is important to use this field consistently, i.e., decide whether you want to use employee labor hours (meaning the total hours of all employees on a crew) or crew hours (meaning the number of hours of crew time was spent working on the job.)

**Technical Description:** No technical description required.

**Data Type:** Number, Single

**Length:** 4
Work Order ID  (Customer Information Diary)

**Short Description:** ID of work order associated with this customer

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Number, Long Integer

**Length:** 4

---

Work Order ID  (Inspection Details)

**Short Description:** ID number of work order generated to repair the defect.

**Full Description:** If you put a “check” in the “Generate Work Order?” field, (meaning “Yes”) and then click the “Create WOs From Marked Inspection Details” button at the bottom of the screen, OASIS will create a work order for each defect that has a checkmark and automatically place the ID number of the generated work order in this field.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 10

---

Work Order ID  (Work Orders)

**Short Description:** OASIS work order id (internal)

**Full Description:** OASIS generates this ID number automatically when a new work order is created. This is required.

However, agencies may have their own internal work order numbering system, perhaps pre-printed on paper forms. Users can put their own ID number on the work order in the Agency Work Order ID field.

**Technical Description:** No technical description required.

**Data Type:** AutoNumber, Long Integer

**Length:** 4
Work Order Notes

**Short Description:** Memo field provided for extended description of work order activity.

**Full Description:** On certain inspection work orders, and work orders generated from inspection defect details, the top portion of this field will be automatically filled with information relevant to completing the work order.

Although it is unlikely, if you need to expand the size of the field so you can see everything you’re typing, press the Control key and the F2 key (together) to open the Zoom window.

Everything you type into the field will appear in reports, which will expand to fit.

**Technical Description:** This is an Access memo field, which can hold 64,000 characters.

**Data Type:** Memo

**Length:** 0

Work Order Prepared By

**Short Description:** Who prepared the work order?

**Full Description:** The entry in this field is usually an employee name or employee ID.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 10

Work Order Type

**Short Description:** Not used at this time in OASIS.

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 2
ZIP (Customer Information Diary)

**Short Description:** ZIP code or postal code of customer's address. Note: The customer's address is where the customer can be contacted - not necessarily the address of the sewer problem - although the two are frequently the same. (The ZIP where the sewer problem is located should be on the work order itself.)

**Full Description:** No further description required.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 20

Zip (Structures)

**Short Description:** 5 digit ZIP code (USA) or postal code (non-USA) describing where the structure is located.

**Full Description:** The entry into this field is a choice selected from the ZIP Code lookup table, which can be edited by the user.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 5

Zip (Work Orders)

**Short Description:** 5 digit ZIP code (USA) or postal code (non-USA) describing where the work order problem is located.

**Full Description:** The entry into this field is a choice selected from the ZIP Code lookup table, which can be edited by the user.

**Technical Description:** No technical description required.

**Data Type:** Text

**Length:** 5
ZIP Code  (ZIP Code Lookup Table)

Short Description:  5 digit ZIP code (USA) or postal code (non-USA)
Full Description:  No further description required.
Technical Description:  No technical description required.
Data Type:  Text
Length:  5

ZIP Code Description  (ZIP Code Lookup Table)

Short Description:  Extended description of ZIP/postal code
Full Description:  No further description required.
Technical Description:  No technical description required.
Data Type:  Text
Length:  50
Index

Numerics
1700 A.D. (default base date - beginning) 1-4
2200 A.D. (default ending date for date end ranges) 1-4

A
About OASIS 1-3
Access Already Installed On Your Computer, Using OASIS With A-3
Access To OASIS Data, External A-5
Add See also Create
Lookup Code 4-2
Street Name 4-2
Address
customer search by 1-28

Address and Location Information for a Structure or Work Order, Enter 4-60
Advanced Features 1-32
Advanced Usage of the Report Catalog 5-27
Arcinfo A-5
Arcview 1-2, 4-55, A-5
Assessment Condition Ratings See Condition Assessment Ratings
Autocad A-5

B
Basic inspection management 3-12
preventive maintenance management 3-7
structure record management 3-4
work order management 3-2
Boolean operators 5-16
Browse Records
Index

See also  Use the Show All command

4-3

C
Catalog  See Report Catalog
Catchbasin/Stormdrain
create record 4-7
data form overview 1-18
Category, Select a Report 5-4
Change
  Lookup Code 4-6
  Street Name 4-6
Closing a Report 5-8
CMOM 2-2, 3-15, 4-15, 4-33
Code
  add a Lookup 4-2
  change a Lookup 4-6
  delete a Lookup 4-54
Codes, Set the Default 4-113
Commands That Take Too Long To Figure Out On Your Own 1-7
Complaint Work Order, Create 4-12
Condition Assessment Ratings,
  Enter 3-15, 4-63, 4-65
Create
  See also Add
  catchbasin/stormdrain record 4-7
  complaint/emergency work order 4-12
  inspection detail records 4-17
  inspection work orders 4-21
  main line record 4-22
  manhole record 4-27
  preventive maintenance work orders 4-29
  scheduled work order 4-30
  septic tank record 4-34
  service lateral record 4-37
  work order customer diary 4-42
  work orders to maintain inspection and preventive maintenance histories 4-45
Criteria in the Report Wizard removing 5-22
setting date 5-9
setting field 5-13
setting the join 5-26
Criteria Wizard, Using the Report 5-9
Crystal Reports 1-4, 5-1, 5-27, A-5
Customer Diary, Create 4-42
Customer Record
  search by name and address 1-28
  search for 4-84
Customize the OASIS Lookup Tables 4-48

D
Data
  delete the OASIS sample 4-55
  external access to OASIS A-5
  find and replace 4-68
Data Form
  catchbasin/stormdrain 1-18
  main line 1-14
  manhole 1-11
  septic tank 1-20
  service lateral 1-16
Data Maps, Sample Sewer 1-34
Database Documentation A-8
Datasheet View, Show Records in 4-115
Date Built
  default 1-4
  main line (and all other structures) 1-14
Date Criteria in the Report Wizard, Setting 5-9
Date Ends, Warranty, Manhole (and all other structures) 4-28
Dates
  base, beginning (1700 A.D.) 1-4
  base, ending date for date ranges (2200 A.D.) 1-4
  preventive maintenance 1-24
report 5-10
  work order 4-14, 4-32
Y2K compliance 1-4
Default
  Access group permissions A-5
Access security file (SYSTEM.MDW) A-3
base date (1700 AD) in OASIS 1-4
Date Built field 1-4
date range, reports 5-11
defect quantity, inspections 1-22
defect reference point in inspections 4-18
first record in each table loading 1-7
installation directory, OASIS A-4
lookup table values B-1
program-wide codes, overview 1-33
program-wide codes, setting 4-113
report output (screen, printer, or file) 5-20
values, setting in lookup tables 2-6
view of OASIS records (Form View) 1-9, 4-115
work order status (Open) 4-31
Definitions, OASIS Table A-10
Delete
Lookup Code 4-54
OASIS sample data and refresh 4-55
Records 4-58
Street Name 4-59
Demo Data
See Sample Data
Detail Records, Create Inspection 4-17
Details Form, Inspection 1-22
Details, OASIS Installation A-3
Diary, Create a Customer 4-42
Documentation, Database A-8
Drains to
catchbasin/stormdrain, details 4-8
catchbasin/stormdrain, overview 1-18
service lateral, details 4-40
service lateral, overview 1-16
Drawing of a Main Line, View a Schematic 4-128
Duplicate a Record 4-59
E
Emergency Work Order, Create 4-12
Enter Address and Location
Information for a Structure or Work Order 4-60
Export 1-23, 5-8, A-8
Exporting a Report 5-8
External Access To OASIS Data A-5
F
Features
advanced 1-32
OASIS reports 5-6
Features And Commands That Take Too Long To Figure Out On Your Own 1-7
Feet 4-18, 4-35
Field Criteria in the Report Wizard, Setting 5-13
Files, OASIS A-1
Filter Records 4-66
Find
and replace data 4-68
structure record 4-71
work order by ID number 1-27
work order record 4-73
Find and Replace Data 4-68
Form
catchbasin/stormdrain data 1-18
inspection details 1-22
main line data 1-14
manhole data 1-11
preventive maintenance 1-24
program administration 1-33
septic tank data 1-20
service lateral data 1-16
work order 1-26
G
Gallons 4-35
GASB 34 2-2, 3-15
General Layout of OASIS 2-3
GIS (Geographic Information Systems) A-5, A-6, A-8
Grouping Data with the Report Wizard 5-23
Index

H
Hiding Report Details with the Report Wizard 5-19
Histories, Create Work Orders To Maintain Inspection and Preventive Maintenance 4-45

I
ID Number
find a work order by 1-27
find structure record by 4-71
Import 1-3, 1-32, 2-3, 3-12, 4-75, A-6, A-7
Information about a Structure or Work Order, Enter Address and Location 4-60
Inspection
detail records, create 4-17
detail records, import 4-75
details form 1-22
list, update inspection records from 4-122
management, basic 3-12
record, search for 4-98
records from an inspection list, update 4-122
schedule 4-80
schedules, search 4-87
work orders, create 4-21
Inspection and Preventive Maintenance Histories, Create Work Orders To Maintain 4-45
Inspections, Sequence and Re-sequence 4-102
Installation Details, OASIS A-3
Installing OASIS, overview 1-2
Intergraph A-5

J
Join Criteria when using the Report Wizard, Setting the 5-26

K
Keyboard Shortcuts 4-120

L
LAN 1, 2-4, A-1, A-3
Laptop 1-3, 1-23, 1-32, 2-3, 3-12, 4-75
Late 1-24, 4-81, 4-83, 4-89, 4-93
Layout of OASIS, General 2-3
Leading zero requirement for manhole (and other structures) numbering 2-12
List of Tables B-1
Liters 4-35
Locate 4-68
See Search, Find, Find and Replace Location Information for a Structure or Work Order, Enter 4-60
Location, Structure Search By 1-25
Lookup Code
Add 4-2
Change 4-6
Delete 4-54
Lookup Tables, Customize in OASIS 4-48

M
Main Line
create record 4-22
data form overview 1-14
view a schematic drawing of 4-128
Main line ID number 4-23
Main Menu 1-6
Maintenance
See Preventive Maintenance Management
basic inspection 3-12
basic preventive maintenance 3-7
basic structure record 3-4
basic work order 3-2
Manhole
create a record 4-27
data form overview 1-11
Manual, Organization of 1
MapInfo 1-2, 4-55, A-5
Mapping, with OASIS
See GIS
Maps, Sample Sewer Data 1-34
Measurement
See Feet, Meters, Gallons, Liters
Menu, Main 1-6
Meters 4-18, 4-35
Microsoft Access Already Installed On Your Computer, Using OASIS with A-3
Microsoft Access See Access

N
Name
Add a Street 4-2
Change a Street 4-6
Customer Search By 1-28
Delete a Street 4-59
Names, Report 5-8
Number See ID Number, Structure ID number, Work Order ID
Number, Main Line ID 2-12, 4-23
Numbering
manhole, discussion about 2-12
Numbers
agency control ID on work orders 4-30
leading zero requirement for manholes (and other structures) 2-12, 4-119
required 1-14
sorting 4-119
uniqueness 4

O
OASIS
about 1-3
data, external access to A-5
demo data
See Sample Data
files, description A-1
general layout of 2-3
installation details A-3
installing 1-2
lookup tables, customize 4-48
removing / uninstalling A-7
report, features of an 5-6
sample data
See Sample Data
starting 1-5
table definitions A-10
using with Microsoft Access already installed on your computer A-3
OASIS.MDE A-1, A-2, A-4, A-6
OASIS.MDW A-2, A-3
OASISID.MDB A-2, A-4
OASISRC.MDB A-2, A-4
Opening the Report Catalog 5-3
Output with the Report Wizard, Setting the Report 5-20
Overview
project steps 2-2
reports 5-2

P
PM
See Preventive Maintenance
Paging Through a Report 5-7
PM List, Update of Preventive Maintenance Records 4-125
Preventive Maintenance
form 1-24
management, basic 3-7
schedule 4-82
schedules, search 4-91
search for record 4-98
sequence and re-sequence 4-102
update records from a PM list 4-125
work orders, create 4-29
Preventive Maintenance and Inspections, Sequence and Re-sequence 4-102
Preventive Maintenance Histories, Create Work Orders To Maintain 4-45
Print Records and Reports (general instructions) 4-79
Printing a Report 5-8
Program Administration Form 1-33
Project Steps 2-2, 2-4
Q
Quick Start  See Ultrafast Start

R
Ratings, Enter Condition
Assessment 4-63
Record
create a catchbasin/stormdrain 4-7
create a main line 4-22
create a manhole 4-27
create a septic tank 4-34
create a service lateral 4-37
duplicate existing 4-59
find a structure 4-71
find a work order 4-73
search for a customer 4-84
search for an inspection 4-98
search for preventive maintenance 4-98
Records
browse 4-3
create inspection detail 4-17
delete 4-58
filter 4-66
print 4-79
search for a structure 4-99
search for a work order 4-95
searching in Datasheet View 4-115
sort 4-117
update inspection records from an inspection list 4-122
update preventive maintenance records from a pm list 4-125
Red (screen color) 1-8, 4-67, 4-118
Refresh OASIS Sample Data
See Sample Data
Removing / Uninstalling OASIS A-7
Removing Report Criteria with the Report Wizard 5-22
Replace Data, Find and Replace 4-68
Report
category, select using the Report Wizard 5-4
closing 5-8
default output (screen, printer, or file) 5-20
details, hiding with the Report Wizard 5-19
exporting 5-8
features of an OASIS 5-6
names 5-8
output with the Report Wizard, setting (screen, printer, or file) 5-20
paging through 5-7
printing 5-8
run 4-79, 5-5
zooming the screen size of a 5-6
Report Catalog
advanced usage of 5-27
opening 5-3
Report Criteria Wizard
using 5-9
grouping data with 5-23
hiding report details 5-19
removing criteria 5-22
setting date criteria 5-9
setting field criteria 5-13
setting the join criteria 5-26
setting the report output 5-20
setting the sort order 5-18
Reports Catalog 1-30
Reports, Crystal 1-4, 5-1, 5-27, A-5
Reports, Print Records and
Preventive Maintenance and Inspections 4-102
Run a Report 4-79, 5-5

S
Sample Data
about 1-1
delete and refresh 1-33, 4-55
explore OASIS with 2-4
in list of project steps 2-2
maps showing 1-34
start the OASIS sample database 1-5
technical explanation A-2
use to learn about reports 5-1
## Index

Schedule
- inspections 4-80
- preventive maintenance 4-82

Scheduled Work Order, Create a 4-30

Schedules
- search for pm events 4-91
- search inspections 4-87

Schematic Drawing of a Main Line, View 4-128

Screen background turns red 1-8

Screen Size of a Report, Zooming 5-6

Search and replace See Find and Replace by name and address, customer 1-28
    for a customer record 4-84
    for a preventive maintenance record 4-98
    for an inspection record 4-98
    inspection schedules 4-87
    preventive maintenance schedules 4-91
    structure records 4-99
    structure type and location 1-25
    work order records 4-95

See All the Records in the Database See Show All Command

Select a Report Category 5-4

Septic Tank
- create a record 4-34
- data form overview 1-20

Sequence and Re-sequence Preventive Maintenance 4-102

Sequencing Preventive Maintenance 3-20

Service Lateral
- create a record 4-37
- data form overview 1-16

Set the Default Codes 4-113

Set up See also Installation

OASIS 2-2
- inspection schedule 2-18
- lookup tables 1-33
- pm and inspection sequencing 4-102

preventive maintenance schedule 2-16

Setting
- date criteria in the wizard 5-9
- field criteria in the wizard 5-13
- join criteria with the wizard 5-26
- report output with the wizard 5-20
- sort order in the Report Wizard 5-18

Sewer Data Maps, Sample 1-34

Show All Command, Use 4-128

Show Records in Datasheet View 4-115

SID See Structure ID number

Size of a Report, Zooming the Screen 5-6

Sort Order in the Report Wizard, Setting 5-18

Sort Records 4-117

Spreadsheet View, Show Records in 4-115

Start, Ultrafast 2

Starting OASIS 1-5

Steps
- overview of the project 2-2
- project 2-4

Street Name
- add 4-2
- change 4-6
- delete 4-59

Structure ID number 1-25, 2-4, 4-7, 4-8, 4-15, 4-22, 4-27, 4-33, 4-34, 4-37, 4-38, 4-71

Structure or Work Order, Enter Address and Location Information for 4-60

Structure Record Management, Basic 3-4

Structure Record, Find 4-71

Structure Records, Search 4-99

Structure Search By Type And Location 1-25

Structure Type And Location, Search By 1-25

SYSTEM.MDW A-3, A-6
### Index

**T**
- Table Definitions, OASIS A-10
  - Tables
    - customize the OASIS lookup 4-48
    - list of B-1
  - Tips and Tricks 4-120

**U**
- Ultrafast Start 2
- Uninstalling OASIS A-7
- Update Inspection Records From an Inspection List 4-122
- Update Preventive Maintenance Records From a PM List 4-125
- Usage of the Report Catalog, Advanced 5-27
- Use the Show All command 4-128
- User Manual, Organization of 1
- Using OASIS with Microsoft Access Already Installed On Your Computer A-3
- Using the Report Criteria Wizard 5-9

**V**
- View
  - schematic drawing of main line 4-128
  - show records in datasheet 4-115
- View All Records See Show All Command

**W**
- WAN 1, 2-4, A-1, A-3
- Warranty 1-8, 1-16, 4-11, 4-25, 4-28, 4-35, 4-41
- Windows 1-1, 1-2, 2-1, 3-1, 4-1, 4-79, 5-1, 5-8, A-1, A-3, A-7, B-1
- Wizard See Report Criteria Wizard
- Work Order
  - create a complaint/emergency wo 4-12
  - create a preventive maintenance wo 4-29
  - create a scheduled wo 4-30
  - create an inspection wo 4-21
  - customer diary, create 4-42
  - enter address and location information 4-60
  - find by ID number 1-27, 4-73
  - form 1-26
  - management, basic 3-2
  - records, search 4-95
  - search by date, type, and location 1-29
  - status, default (Open) 4-31
- Work Order ID
  - agency control ID also used 4-14
  - automatic assignment by OASIS 4-13, 4-31
  - generated by marked defects in inspection defect details 1-23
  - generated by marked records in inspection list 4-90
  - generated by marked records in pm list 4-94
  - used when searching for inspection and pm records 4-98
  - used when searching work orders, details 4-96
  - used when searching work orders, overview 1-29
  - used with Find command 4-73
- Work Orders, Create to Maintain Inspection and Preventive Maintenance Histories 4-45

**Z**
- Zooming the Screen Size of a Report 5-6