

Appendix D

Preventative Maintenance Program



City of Huntington Beach

2009 WDR Preventative Maintenance Program

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Section I. General Information

The City of Huntington Beach is an urban city with a population of 201,000 residents. It contains approximately 17,730 acres or 28 square miles of which 97 percent is developed with residential, commercial, industrial, institutional, public uses and streets/highways. It is surrounded by Westminster to the north, Fountain Valley to the northeast, Costa Mesa to the east, Newport Beach to the southeast, Sunset Beach to the northwest, and the Pacific Ocean to the west. Elevations vary from sea level to approximately 200 feet above sea level. Residential use is the largest single land use in the City.

The City is responsible for operating and maintaining 28 sewer lift stations, 635 miles of sewer line (includes 275 miles of lateral lines) and 10,091 manholes that comprise the Wastewater Collection System. Pipe size ranges from 4 to 30 inches in diameter and collectively they transport the 32 million gallons of wastewater generated each day in Huntington Beach. The lift stations vary in capacity from approximately 80 to 1,800 gallons per minute and assist in transporting roughly a third of the city's wastewater. The average age of the collection system is now 38 years after rehabilitation of the city's oldest pipelines and structures.

The legal authorities and ordinances governing use of the sewage collection system are found in the Huntington Beach Municipal Code:

- 14.24.010 Enforcement and administration
- 14.24.020 Definitions
- 14.24.030 Prohibited deposits
- 14.24.035 Storm drain and sewer use
- 14.24.037 Swimming pool wastewater disposal
- 14.24.040 Industrial waste disposal-Permit required
- 14.24.050 Industrial waste disposal-Permit application
- 14.24.060 Industrial waste disposal-Permit decision
- 14.24.070 Industrial waste disposal-Permit issuance
- 14.24.080 Industrial waste disposal-Limitation
- 14.24.090 Industrial waste disposal-Act prohibited
- 14.24.100 Industrial waste disposal-Permit term
- 14.24.110 Industrial waste disposal-Permit transfer
- 14.24.120 Compliance tests and inspections
- 14.24.130 Cooperation by other departments
- 14.24.140 Enforcement
- 14.24.150 Notice of violation
- 14.24.160 Continued violation-Activity cessation
- 14.24.170 Permit suspension
- 14.24.180 Permit revocation
- 14.24.190 Permit-Revocation proceedings
- 14.36.010 Service application-form

- 14.36.020 Encroachment permit-Plans and specifications
- 14.36.030 Encroachment permit-Connection by applicant
- 14.36.040 Change of occupancy-Installation of separate lines
- 14.36.050 Maintenance and repair
- 14.36.060 Private premises-User/owner responsibility
- 14.36.070 Sanitary sewer facilities fund established-fees
- 14.36.080 Planned local sanitary sewer areas-Fee schedule
- 14.36.090 Fee Payment
- 14.44.010 Sewer main extensions-Application
- 14.44.020 Sewer main extensions-Plans and specifications
- 14.44.030 Sewer main extensions-System requirements
- 14.44.040 Sewer main extensions-Reimbursement agreement
- 14.44.050 Sewer main extensions-Liability

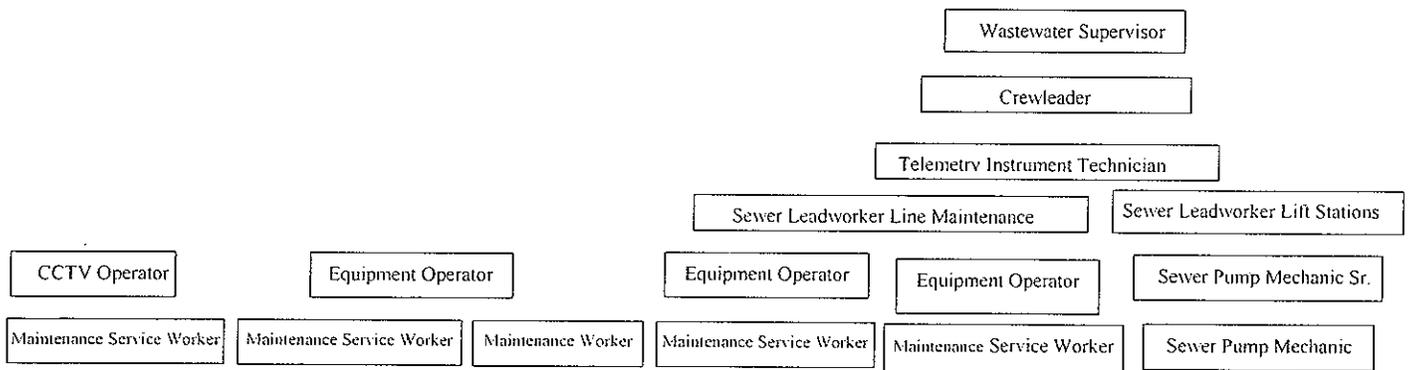
Section II. Facility and Equipment Operation and Management

C.7. The discharger shall properly fund, manage, operate and maintain, with adequately trained staff and/or contractors possessing adequate knowledge skills and abilities as demonstrated through a validated program at all times, all parts of the sewage collection system owned and/or operated by the discharger.

Public Works is the City of Huntington Beach's department responsible for the sewage collection system.

The City of Huntington Beach adopted a Sewer Service Charge in 2001 and created a Sewer Service Fund. The Sewer Service Fund revenue is designated solely for the rehabilitation, replacement, repair and maintenance of City-owned sewers and lift stations. This is in accordance with the California Health and Safety Code Section 5470, and is included in Ordinance Title 14 – Water and Sewers, that adds Chapter 14.54 to the Huntington Beach Municipal Code.

The wastewater division is composed of 16 full time employees. The organizational structure of the division is as follows:



The Wastewater section has had safety training that includes confined space training, traffic control and driver safety, use of personal protective equipment, health precautions related to working around and with raw sewage that includes blood borne pathogens training.

All of the Wastewater staff has a current certificate for confined space entry. Six staff members are Haz Mat trained to the First Responder Operations Level as described in Title 8 CCR section 51929 (e) and Title 29 CFR Part 1910.120. Twelve members have a California Water Environment Association (CWEA) Grade 1, Collection System Maintenance certificate, eight members have a Grade 2 Collection System Maintenance Certificate and three members have a

Grade 4 Collection System Maintenance Certificate. All training documentation will include the actual material covered in the trainings, date and time of training, name of the instructor and attendees. These documents are maintained and stored at the Utilities Yard administration building by the Operations Manager.

All Wastewater employees currently take part in the City's emergency response program. Each week a person is designated as the "standby" employee. All calls are routed through the Police Department to a pager carried by this standby employee. He is provided with a fully equipped vehicle while on standby and can respond directly to the concern, usually within 20 minutes. The employee assesses the situation, dispatches additional personnel if necessary and notifies other agencies when appropriate. If the event is a sewage spill it will be documented on an Incident Response Form, then telephoned, faxed and e-mailed to regulatory agencies and stored by the division as a permanent record of the incident.

Section III. Mapping of Collection System

The City of Huntington Beach currently utilizes a GIS based tracking and mapping system for its sanitary sewer collection system and storm water conveyance facilities. This tracking is based on a GASB-34 requirement to inventory and assess the current value and depreciation of the sewer collection system. We also track locations of all sewer spills, sewer pipes with high concentrations of grease and the frequency they are cleaned. The following information was gathered and entered into the GIS database for all public sewer lines and sewer manholes:

- Type of sewer pipe installed (i.e. vitrified clay, cast iron)
- Date of installation or replacement
- Size of pipe
- Depth of pipe

The City's collection system maps accurately reflect pipe locations and are adequate for all maintenance tasks. The maps are checked annually by line cleaning crews and updated as necessary. All updated information is submitted to the GIS section for correction on all future printed maps.

This information is housed and maintained by the City's Public Works G.I.S. Section. A facsimile of the digitized mapping data is attached (Figure III-1).

Section IV. Routine Preventative Operation and Maintenance

C.12.(iv)(D) Routine preventative operating and maintenance activities by staff and contractors; including a system for scheduling regular maintenance and cleaning of the collection system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system of tracking work orders and assessing the success of the PM program.

The maintenance program consists of a record keeping and report system, a work order program to address requests for service from the public, an established cycle for regular cleaning as well as “hotspots”, a 24 hour emergency response program, an inspection program, a GIS mapping program and a lift station maintenance program.

Line Cleaning

Currently the majority of the City’s sewer system is cleaned on a twelve to eighteen-month cycle. Lines that develop problems within this period are placed on a “hotspots” list and are cleaned more frequently. Depending on the severity of the problem or the possible impact to the surrounding area, the new cleaning cycle may vary from monthly to annually. These cycles are reviewed by wastewater personnel during cleaning of the line and adjusted as necessary to ensure the prevention of future blockages.

Historically the City has treated root cutting as a normal occurrence during the cleaning of sewers. Root cutters are carried on all hydro-jet cleaning trucks and are used in the field as needed. We also treat sewer lines with a history of root infestation with a chemical root killer that works for two years.

Trouble spots or “hotspots” are cleaned anywhere from monthly to annually. The City currently has 228 hot spots and assigns two full time employees to their maintenance. The City uses a computerized maintenance management system for record keeping and report purposes that are kept by the Wastewater Crew Leader.

The City has a fats, oil and grease (FOG) program with an inspector that monitors food service establishments (FSE) for compliance with the program goals of putting no fats, oils or grease into the sewer system. Our closed circuit television camera truck (CCTV) video tapes the City sewer line where the FSE lateral sewer line connects, looking for any evidence of a grease buildup. Any FOG concern found is given to the FOG inspector for remediation.

The Wastewater section has four combination high velocity hydro-cleaning and vacuum removal trucks and a CCTV truck. All maintenance on vehicles is done in house under the supervision of the Vehicle Maintenance Supervisor.

Lift Station Maintenance

In general, the City's sewer lift stations are very reliable. To maintain their reliability the City performs preventative maintenance on daily, monthly, quarterly, and yearly schedules. These activities are tracked with a work order system that generates reports.

In addition to scheduled visits, emergency maintenance is performed as needed. The City owns enough portable generators to operate all lift stations during a power outage. Also, the telemetry system monitors the stations 24 hours a day and reports developing problems in as little as two minutes to standby personnel.

Redundancy is achieved by installing at least two pumps in all City sewer lift stations. The lift stations are designed to handle normal incoming flows with only one pump. The secondary pump is utilized if the primary pump fails to operate or is down for repair. Float switches are also set up to run the pumps in the event of a control panel failure.

TABLE IV-1

Dist/Street	LOCATION	CLEANINGS PER YEAR
499-000	EDINGER & BEACH...JET SOUTH 875'	1
503-150	EDINGER FROM BEACH TO RR TRACKS...JET 2,700	1
520-060	GOLDENWEST FROM TALBERT THROUGH (SIPHON) AT RIO VISTA...JET 1,375 & (JET BACKWARD FROM TALBERT)	1
327-015	SEA POINT FROM GARFIELD TO SUMMIT. JET	1
513-030	ATLANTA AND NEWLAND...JET EAST 800'	1
523-030	ATLANTA AND NEWLAND JET NORTH 500'	1
411-030	STEWART NORTH OF GARFIELD...JET 800'	1
523-320	ATLANTA AND NEWLAND SOUTH 25' TOWARD THE COUNTY	1
157-001	PARKING LOT OFF OF COUNTLESS FROM PORTOFINO CONDO'S TO SEA BRIDGE CONDO'S 625'	2
157-190	PAR AND SPRINGDALE...JET WEST 800'	2
157-160	CHIPPER AND SNEAD...JET TOWARD THE NORTH BETWEEN THE HOUSES TOWARD THE STORE 150'	2
242-000	CENTER FROM HUNTINGTON VILLAGE TO RAIL ROAD TRACKS...JET 700'	2
253-020	AROUND WESTMONT SCHOOL YARD FROM (SIPHON) TO HEIL 1300'	2
157-150	JET SNEAD...Jet 575'	2
453-340	BEHIND ATLANTA SEWER LIFT STATION FROM SUNSET TO STATION 1400'	2
513-010	ENTRANCE TO ATLANTA STATION...JET SOUTH 100'	2

Dist/Street	LOCATION	CLEANINGS PER YEAR
513-010	ATLANTA FROM EAST OF SURF WOOD TO THE EAST OF BEACH...JET 1,100'	2
513-190	ATLANTA EAST OF BEACH...JET WEST 125'	2
504-140	HEIL FROM WESTMONT SCHOOL TO NEWLAND 1,050'	2
497-300	ALLEY BETWEEN 11TH AND 12TH AT PALM...JET 300' NORTH TO THE START AT CREST	2
463-001	SURFWOOD & ATLANTA...JET SOUTH 750'	2
526-050	ON BROOKHURST FROM TO HAMILTON JET NORTH AND SOUTH	2
505-200	LYNDON AND WARNER ...JET EAST 800'	3
262-220	LYNDON...JET 400'	3
505-160	WARNER & MAGNOLIA...JET WEST 475'	3
524-120	WARNER & MAGNOLIA...JET SOUTH 30'	3
272-110	CYPRESS AND ELM JET EAST 425'	3
272-173	ELM AND SCYAMORE Ave...JET SOUTH 450'	3
499-000	BEACH AND CYPRESS...JET NORTH 300'	3
499-000	BEACH AND CYPRESS...JET SOUTH 800'	3
505-200	WARNER FROM WEST OF BEACH TO OAK ...JET 775'	3
128-200	LARCHWOOD WEST OF NORTHRIDGE... JET EAST 400' (SIPHON) -	4
128-040	GLENWOOD & EDGEVIEW...JET EAST 400' (SIPHON)	4
138-040	THOR 625' (SIPHON)	4
518-090	SOUTHEAST CORNER SPRINGDALE & MCFADDEN JET NORTH 350' (SIPHON)	4
520-170	OXFORD & GOLDENWEST...JET NORTH 150'	4
520-170	OXFORD & YORKSHIRE ...JET EAST 500'	4
139-240	CANTERBURY & YORKSHIRE.. JET NORTH 275'	4
139-080	HANOVER AT MC FADDEN... JET NORTH 875'	4
502-050	HANOVER AT MC FADDEN... JET EAST...275'	4
149-230	MCFADDEN & DAWSON...JET SOUTH 800'	4
149-030	REDCOACH AND DAWSON...JET WEST 800'	4
154-040	HUMBOLDT & WEST OF WAYFARER...AT THE WET WELL JET WEST 875'	4
155-020	EDINGER FROM MELODY TO BOLSA CHICA 1,375'	4
503-010	SISSON EAST OF WARREN...JET SOUTH UNDER THE CHANNEL TOWARD MEADOWLARK 450' (SIPHON)	4
503-030	EDINGER AT WARREN...JET EAST 875'	4
518-160	SPRINGDALE SOUTH OF EDINGER...JET SOUTH 250' AND EAST 30'	4
158-070	BRADBURY & CHRISTY...JET EAST 525'	4
158-080	HEIL & BRADBURY JET NORTH 500'	4
158-200	MYRTLE AND MERCIER JET WEST 550'	4
165-150	VISTA & GREEN...JET EAST 175'	4
165-090	PEARCE FROM LYNN TO BOLSA CHICA 1,475'	4
165-100	GREEN & PEARCE... JET NORTH 525' AND SOUTH 400'	4
504-010	HEIL FROM GREEN TO ALGONQUIN 2,125'	4

Dist/Street	LOCATION	CLEANINGS PER YEAR
529-020	ALGONQUIN ONE MANHOLE SOUTH OF HEIL JET NORTH 325'	4
516-001	BOLSA CHICA FROM SOUTH PEARCE TO HEIL 1,675'	4
165-170	BOLSA CHICA SOUTH OF HEIL...JET WEST TOWARD RUDDER 700'	4
504-270	REGINEA & HEIL...JET WEST 1,175' (TWO LINES)	4
169-305	DIANE & SYLVIA...JET TOWARD WEST THRU-PARK 700'	4
169-170	MARILYN & DIANE...JET NORTH 575'	4
169-180	MARILYN & GOLDENWEST...JET WEST 875'	4
519-085	EDWARDS & MARILYN...JET EAST 700'	4
518-080	EDWARDS SOUTH OF MARILYN & THE CHANNEL JET NORTH 800 (SIPHON)	4
505-080	WARNER FROM POST OFFICE TO GOLDENWEST 1,175'	4
173-055	CORAL CAY & PCH ...JET NORTH EAST 375'	4
174-135	WARNER ACROSS FROM HUNTINGTON HARBOR BAY & RACQUET CLUB ...JET NORTH TOWARD THE CLUB 150'	4
177-210	NORDINA FROM FORBES TO SLATER LIFT STATION..1,225'	4
176-080	ST ANDREWS & KENILWORTH...JET NORTH 7,00'	4
176-090	GRAHAM & KENILWORTH...JET WEST 875'	4
517-020	GRAHAM & GRAHAM SEWER LIFT STATIONJET NORTH 325'	4
517-200	GRAHAM & GRAHAM SEWER LIFT STATION JET SOUTH 75'	4
177-210	SLATER LIFT STATION...JET WEST TOWARDNORDINA 250'	4
177-001	GERSHWIN JET 175'	4
179-120	ARGO JET 375'	4
179-090	CAPSTONE & DREY...JET EAST 300'	4
179-160	KURT AT MANTHATTAN...JET SOUTH 275'	
179-170	MANHATTAN FROM GIBSON TO MAYOR...JET 925'	4
179-240	MAYOR & SLATER AT THE COUNTY LINE JET NORTH 575'	4
179-290	SHENLYN & EDWARDS...JET EAST 525' (SIPHON)	4
187-340	WRIGHTWOOD FROM SOUTH OF PINON TO PRICE JET 1,425'	4
187-360	SPRINGDALE SOUTH OF SLATER..JET WEST 250' TOWARD PRICE.	4
188-050	FENLEY FROM EAST OF COLLIE TO SPRINGDALE JET 1,075'	4
518-220	SLATER LIFT STATION...JETSOUTH 275'	4
178-080	SLATER LIFT STATION...JET EAST TOWARD POINT LOMA 600'	4
505-060	SPRINGDALE SOUTH OF WARNER JET WEST 35'(SIPHON)	4
189-020	FRONTAGE ROAD OFF EDWARD SOUTH OF ARMADA JET EAST TOWARD VILLA NUEVA 500'	4

Dist/Street	LOCATION	CLEANINGS PER YEAR
189-210	EDWARDS NORTH OF ARMADA...JET TOWARD EAST UNDER THE CHANNEL TOWARD SABBICAS 550' (SIPHON)	4
232-060	COLGATE & CASCADE...JET WEST NEXT TO SCHOOL 150' AND JET SOUTH 500'	4
252-030	ALLEY BEHIND APT AT AMAZON & GANGES...JET EAST TOWARD AMAZON 875'	4
252-040	ALLEY BEHIND APT AT AMAZON AND GANGES NEXT MANHOLE JET NORTH 100'	4
252-030	SAME MANHOLE...JET WEST TOWARD THE COUNTY 25'	4
252-001	RHONE BETWEEN ALHAMRA & NANCY...JET NORTH 500' SOUTH 175' BEHIND HOUSE NORTH OF HEIL...JET NORTH THEN EAST TOWARD RHONE 200'	4
523-150	NEWLAND 2 ND HOLE SOUTH OF EDINGER JET NORTH 275'	4
262-001	RHONE NORTH OF RHINE...JET WEST BETWEEN THE HOUSES 150' THEN JET NORTH 500' AND SOUTH 500'	4
262-160	VIEWPOINT AND DAMASK ...JET NORTH 875'	4
262-170	DAMASK...JET 500'	4
499-00	BEACH SOUTH OF DAMASK JET NORTH 200' (SIPHON)	4
263-275	ALLEY BEHIND NORMS SOUTH OF HEIL AND EAST OF BEACH LAST MANHOLE...JET TOWARD NORTH 400'	4
263-275	WAITE & BRUSH JET WEST TOWARD ALLEY BEHIND NORMS 175'	4
263-150	WAITE ...JET 425'	4
523-170	NEWLAND FROM LOIS TO LAMAR 825'	4
523-180	NEWLAND FROM LAMAR TO THE SOUTH 150'	4
263-140	BRUSH FROM WAIT TO NEWLAND 2,125'	4
523-140	NEWLAND NORTH OF WARNER...JET NORTH 800' & SOUTH 100' (SIPHON)	4
263-030	"A " & WARNER...JET NORTH 625'	4
292-140	FRANKLIN 525'	4
292-130	DELAWARE SOUTH OF FRANKLIN...JET NORTH 350'	4
292-100	DELAWARE WEST BETWEEN HOUSE TOWARD YUKON 525'	4
292-305	DELAWARE EAST INTO ALLEY 700'	4
292-130	DELAWARE & ELLIS...JET NORTH 275'	4
508-030	HUNTINGTON & ELLIS..JET EAST 675'	4
532-060	MAIN FROM FLORIDA TO BEACH 1,025'	4
499-000	BEACH NORTH OF ELLIS TO ELLIS 950'	4
508-060	ELLIS WEST OF NEWLAND...JET WEST 275'	4
508-050	ELLIS WEST OF NEWLAND...JET EAST 250'	4
412-070	FLORIDA FROM SUTH OF MAIN TO SHAFFER JET 975'	4
412-060	AMBERLEAF...JET 575'	4
536-080	DELAWARE FROM ELLIS TO MAIN 1,000'	4
536-090	DELAWARE FROM MAIN TO SOUTH ...JET 475'	4

Dist/Street	LOCATION	CLEANINGS PER YEAR
508-070	ELLIS & MAIN ...JET NORTH 175'	4
499-000	BEACH NORTH OF MAIN...JET SOUTH 325'	4
508-050	BEACH & ELLIS...JET EAST 875'	4
499-000	BEACH & ELLIS...JET SOUTH 800'	4
510-020	YORKTOWN WEST OF NEWLAND...JET EAST 325' & WEST 600'	4
523-280	NEWLAND NORTH OF BRIDGEPORT TO SOUTH OF YORKTOWN JET 2,125' (SIPHON)	4
423-290	DANBURY & NEWLAND...JET WEST 525' (SIPHON)	4
423-280	GILFORD & NEWLAND...JET WEST 450' (SIPHON)	4
424-340	HOME DEPOT SHOPPING CENTER SOUTH OF GARFIELD WEST OF MAGNOLIA...JET WEST TOWARD LUSS 400' AND NORTH 50' AND EAST 625'	4
524-130	MAGNOLA SOUTH OF GARFIELD TO GARFIELD 650'	4
424-220	YORKTOWN WEST OF MAGNOLA...JET NORTH TOWARD CORALWOOD 500'	4
510-030	YORKTOWN WEST OF MAGNOLA...JET EAST 175' FROM THE FIRST MANHOLE	4
510-160	YORKTOWN WEST OF MAGNOLA...JET WEST 800' FROM THE FRIST MANHOLE	4
510-130	YORKTOWN WEST OF BUSHARD JET EAST 875' (SIPHON)	4
526-160	BROOKHURST FROM GARFIELD TO KAMUELA 1,875' (SIPHON DO THE EVERY 3 MONTHS!!!)	4
427-170	KAMUELA EAST OF BROOKHURST...JET WEST 30'	4
423-180	ALABAMA & ADAMS...JET NORTH 875' AND SOUTH 800' (442-001)	4
432-170	HUNTINGTON & ADAMS...JET NORTH 650'	4
511-070	HUNTINGTON & ADAMS...JET WEST 450'	4
433-070	FLAXMAN & EDGEWOOD...JET NORTH 700' AND SOUTH 275'	4
433-040	ROTHERT & FLAXMAN ...JET EAST 275'	4
433-060	ROTHERT FROM FLAXMAN TO NORTH NEWBRITAIN 550'	4
435-130	CRAWFORD JET 500' (DO NOT JET LOTUS)	4
435-250	CHESAPEAKE AND ADAMS ...JET NORTH 500'	4
435-230	BUSHARD SVS RD WESTSIDE...JET NORTH 600'	4
510-140	YORKTOWN AND HONEYWOOD JET 800'	4
435-001	HONEYWOOD...JET 175'	4
436-410	CHARING CROSS & COVENTRY...JET NORTH 350'	4
436-450	CHARING CROSS...JET 200' (DO NOT GET ON THE SIDE WALK !)	4
436-490	SUTTON & ADAMS...JET NORTH 200'	4
511-060	SUTTON & ADAMS...JET EAST 875'	4
436-690	ADAMS TWO MANHOLES EAST OF BUSHARD...JET NORTH TOWARD LURES 400'	4

Dist/Street	LOCATION	CLEANINGS PER YEAR
511-050	ADAMS & BUSHARD WEST SIDE... JET EAST 875' (SIPHON)	4
436-150	BUSHARD SEWER LIFT STATION AND FRONTAGE ROAD JET NORTH 875' AND SOUTH 100'	4
437-110	CONSTITUTION & CANBERRA...JET NORTH 700' & SOUTH 275'	4
437-060	CONSTITUTION & MATSONIA...JET EAST 275'	4
437-080	MATSONIA...JET 525'	4
437-090	CUTTYSHARK & RANGER...JET EAST 250'	4
437-180	RANGER...JET 1,150'	4
437-230	FRONTAGE ROAD & ADAMS SEWER LIFT STATION JET EAST 500'	4
442-380	JOLIET & ALLEY EAST OF ENGLAND...JET WEST 800'	4
442-370	JOLIET & ALLEY EAST OF ENGLAND...JET EAST 675'	4
442-300	INDIANAPOLIS AND ALLEY EAST OF ENGLAND JET NORTH 800'	4
443-001	ADAMS & NORTH NEWBRITAIN ...JET SOUTH 450'	4
511-020	ADAMS & NORTH NEWBRITAIN WEST TOWARD THE STATION 100'	4
443-030	SOUTH PORT & CAPE COTTAGE ...JET NORTH 500'	4
443-050	SOUTHPORT & CAPE COTTAGE...JET SOUTH THEN EAST THRU THE PARK 375'	4
443-050	SOUTH NEW BRITAIN...JET 700' (USE 600LB PRESSURE 4TH HOUSE!!)	4
443-040	SOUTHPORT...JET 500'	4
444-150	MASTERS & NEWBY...JET WEST 775'	4
444-190	NEWBY...JET 250'	4
444-310	MEANDER SOUTH OF BURLCREST...JET WEST BETWEEN HOUSE 275'	4
444-425	SWANSEA & BURLCREST...JET NORTH 400'	4
444-310	BURLCREST FROM CROFT TO MAGNOLIA 1,075'	4
526-200	INDIANAPOLIS & BROOKHURST EAST SIDE JET NORTH 425' & SOUTH 100'	4
532-001	ALLEY BETWEEN 5TH & MAIN AT WALNUT JET SOUTHWEST 25' & JET NORTHEAST 400'	4
532-130	WALNUT & MAIN...JET SOUTHWEST 275'	4
532-135	WALNUT SOUTH EAST OF MAIN AT ALLEY JET SOUTH WEST 200'	4
497-290	ALLEY BETWEEN 12TH & 13TH SW OF ORANGE JET NORTHEAST 400'	4
512-135	FLORIDA & INDIANAPOLIS...JET WEST 250'	4
452-040	GENEVA & FLORIDA...JET NORTH 275'	4
452-020	GENEVA FROM FLORIDA TO ALLEY EAST OF DELAWARE 700'	4
452-060	FRANKFORT & ALLEY EAST OF DELAWARE JET NORTH 800'	4

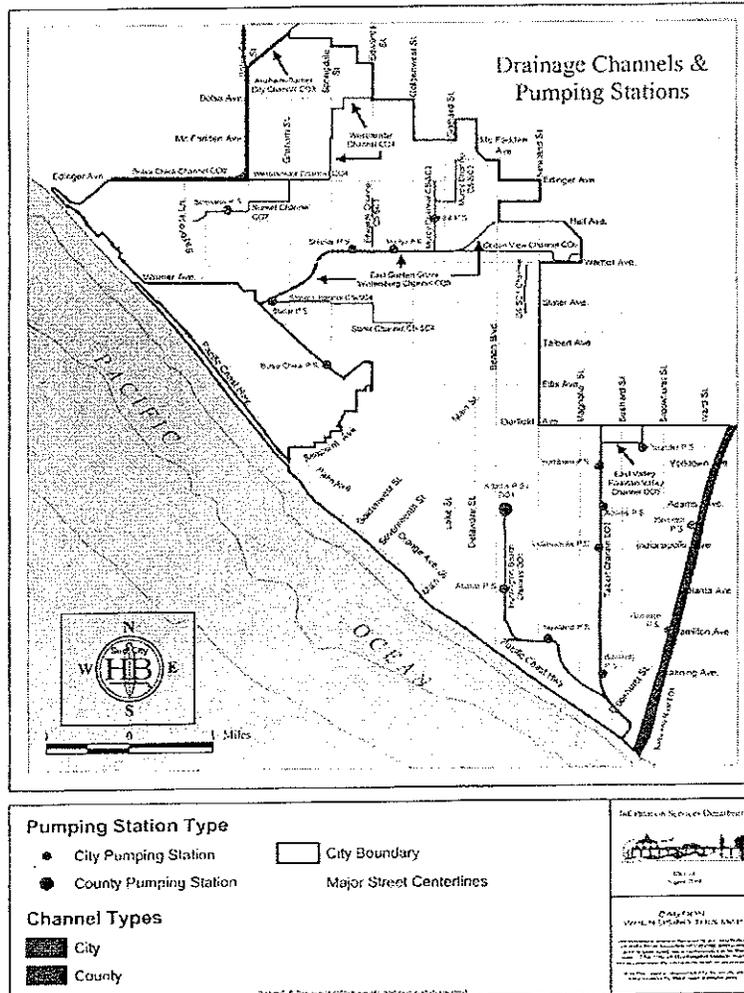
Dist/Street	LOCATION	CLEANINGS PER YEAR
536-001	ALLEY & DETROIT EAST OF CALIFORNIA JET NORTH 800'	4
452-100	CALIFORNIA & DETROIT...JET EAST 175'	4
455140	CARROLTOWN WEST OF HOPETOWN JET EAST 325' (SIPHON)	4
524-050	ATLANTA & MAGNOLIA...JET NORTH 650'	4
457-030	BROOKHURST SOUTH OF ENDEVER JET EAST 150' (SIPHON)	4
526-220	BROOKHURST AND ATLANTA JET NORTH 500'	4
457-150	BROOKHURST SOUTH OF INDIANAPOLIS JET EAST TOWARD SUBURBIA 175'	4
526-110	BROOKHURST & INDIANAPOLIS WEST SIDE 175' JET NORTH,	4
446-260	THEN WEST BETWEEN HOUSES TOWARD HOTSPRINGS 600'	4
512-060	INDIANAPOLIS AND BROOKHURST JET EAST JET FROM BOTH SIDES 150' (SIPHON)	4
463-150	INDIANAPOLIS NORTH OF DONCASTER AT ALLEY JET WEST 800'	4
464-095	ST AUGUSTINE & BRETON...JET NORTH SOUTH 375'	4
464-090	ST AUGUSTINE & BRETON...JET NORTH 600'	4
464-080	ST AUGUSTINE FROM BRETON TO SEAFORTH 525'	4
464-085	ST AUGUSTINE FROM SEAFORTH TO NEWLAND 625'	4
523-320	NEWLAND NORTH OF ST AUGUSTINE...JET SOUTH 100' AND WEST 15'	4
467-050	BROOKHURST AND SPAR...JET EAST 475' (SIPHON)	4
475--020	RHODESIA WEST OF KANEOHE...JET EAST 100' (SIPHON)	4
475-020	RHODESIA & MAGNOLIA...JET EAST 875'	4
475-100	ALOHA WEST OF KANEOHE...JET EAST 75' (SIPHON)	4
475-100	IN THE ICE PLANT NORTH OF BANNING EAST OF MAGNOLIA JET EAST TOWARD ALOHA 700'	4
523-190	RAMBLER & BUSHARD WEST SIDE...JET NORTH 675'	4
475-210	RAMBLER AND BUSHARD JET WEST 575'	4
485-001	SUSAN NORTH OF CHRISTINE...JET SOUTH 175'	4
151-001	MARINER...JET 1150' (CODE FOR GATE * 2468)	6
151-001	BEHIND KONO'S SEAFOOD PARKING LOT BY KONO'S SEAFOOD..JET N.W 300'	6
151-001	KONO'S & PCH ...JET N.E. INTO PARKING LOT 150'	6
498-000	PETER'S LANDING AT PCH...PCH FROM SAM'S TO LAST HOLE IN THE GRASS AT PETER'S LANDING...JET 1,625'	6
166-110	REDROCK NORTH OF WARNER...JET TOWARD EAST 350' TOWARD TENNIS COURTS.	6
505-250	(PIPE OFFSET - MIGHT GET STUCK) WARNER WEST OF GRAHAM...JET TOWARD NORTH 600'	6
505-250	GRAHAM & WARNER...JET TOWARD THE WEST 200'	6

Dist/Street	LOCATION	CLEANINGS PER YEAR
517-030	GRAHAM & WARNER...JET TOWARD THE NORTH 600'	6
	VELARDO AND BUSHARD JET EAST 800' (SIPHON)	6
445-280	HARBOR ISLE AND BROWNING ...JET EAST UNDER THE CHANNEL TOWARD RAMONA...JET 775'	6
540-010	BEACH FRONTAGE ROAD...JET 1750'	6
426-040	VELARDO AND BUSHARD JET EAST 800' (SIPHON)	6
540-010	BEACH PARKING LOT...JET 900'	6
465-020	BUSHARD NORTH OF HAMILTON EAST SIDE JET WEST BETWEEN HOUSES TOWARD PIER...JET 400' (USE SMALL NOZZLE) SOUTH SIDE ONLY!	6
540-010	PIER...JET 1825'	6
136-186	COLUMBIA & MC FADDEN...JET NORTH 475' (SIPHON)	12
502-040	COLUMBIA & MC FADDEN...JET EAST 800'	12
242-000	CENTER FROM EAST OF HUNTINGTON VILLAGE TO HUNTINGTON VILLAGE...JET 975' (SIPHON)	12
253-001	STARK EAST OF BEACH...JET 625'	12
252-020	BEHIND WESTMONT SCHOOL...JET NORTH 750' (SIPHON)	12
253-040	ALLEY FROM STARK EAST OF BEACH TO STARK AND MALAGA (SIPHON) ...JET 1025'	12
272-120	SYCAMORE AND ASH...JET EAST 450'	12

Section V. Capacity Assessment

C.12.(iv)(E) Establish a program to assess the current capacity of the collection system owned by the discharger or where the discharger has operational control; including diversions of urban runoff to the sewer system during dry weather periods and control of infiltration and intrusion during both wet weather events and dry weather periods.

Currently nine of the twenty-eight lift stations have diversions of urban runoff to the sewer system during dry weather periods. The City has adopted a Sewer Maintenance Plan dated May 2003 that was recently updated by the firm of Kennedy-Jenks Consultants. This updated plan evaluates the comprehensive condition of the Wastewater system including sewer lines and equipment.



Section VI.
 Prioritization and Rehabilitation of Structural Deficiencies

C.12 (iv)(F) Identify and prioritize structural deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. This shall include a rehabilitation plan including schedules for the entire system. As with the PM program, sewer rehabilitation and replacement is crucial for the prevention of spills. Among the provisions that should be specified in this section is the need to direct rehabilitation and replacement at sewer pipes which are at risk of collapse or prone to more frequent blockages due to pipe defects. The program should also include regular visual and TV inspection of sewer pipes. Finally, the rehabilitation and replacement plan should include a financial plan that properly manages and protects the infrastructure assets.

The City of Huntington Beach owns one Closed Circuit T.V. truck for inspecting sewer pipes. The City's video inspection program began in 1994 and was halted in 1998 due to a lack of personnel. During this period, 142 miles of sewer pipe or 25% of the collection system was inspected. The CCTV inspection program was started again in 2004 with the addition of video taping sewer lines for the presence of fats, oil and grease, hot spot areas for concerns in the sewer line, sewage spill sites for cause of the spill and location of lateral lines for the new sewer lateral line repair program.

Identification of structural deficiencies is performed with closed circuit television inspection of sewer lines. Damaged or broken sewer lines, which could result in a sewage spill, are considered a very high priority. These lines are slipped lined or point break repaired. In 2003 two sewer lift stations were completely reconstructed. In 2005 a new sewer lift station was built and added to our inventory. In 2006 two sewer lift stations were completely reconstructed. In 2008 one sewer lift station was completely reconstructed. In 2009 one sewer lift station is under construction with another one being designed for reconstructing in 2010. The City completed its Sewer Master Plan in 2003 and it addresses all capacity, as well as structural deficiencies. Copies are available upon request.

Table VI-1 denotes the budget for the Wastewater Section operations and capital improvements. The 2008-09 budget includes a sewer fee for all buildings connected to the City sewer system.

TABLE VI-1

FY 2008-09 Budget

511185201	Sewer Service Maintenance	
00511	Sewer Service Fund	
51000	Personnel Services	1,699,886
60000	Operating Expenses	3,276,109
80000	Capital Expenditures	7,948,995
50000	Expenditures	12,924,990

Section VII.
Equipment and Replacement Inventories

C.12. (iv)(H) Provide equipment and replacement parts inventories, including identification of critical replacement parts.

Vehicle Description

2004 Ford E 450 Camera Truck
2006 GMC 2500
2000 MQ POWER GENERATOR
2000 MQ POWER GENERATOR
2008 MQ POWER GENERATOR
1990 ONAN GENERATOR
2007 MQ POWER GENERATOR
2001 MQ POWER GENERATOR
2006 GODWIN PUMP 6 INCH
1997 WACKER PUMP 6 INCH
2001 I/R BOBCAT
2001 ZIEMAN
2003 FORD F250
2002 GMC ONE TON DUMP
2008 FORD F350
2005 CHEVROLET 2500
2006 FORD F450
2006 VACTOR COMBINATION SEWER CLEANER
2007 VACTOR COMBINATION SEWER CLEANER
2001 VAC-CON COMBINATION SEWER CLEANER
2002 AQUATECH COMBINATION SEWER CLEANER
2005 CHEVROLET 2500

TABLE VII-1

Warehouse Inventory 2009

CATEGORY	PART TYPE	SIZE	AMOUNT
Pump Parts:	Bearing	6 in. Top	8
	Bearing	6 in. Bottom	7
	Bearing	4 x 9 Top	4
	Bearing	4 x 9 Bottom	4
	Bearing Seals	4 x 9	35
	Bearing Seals	6 in.	76
	Shaft Sleeves	6 in.	20
	Shaft Sleeves	4 x 9	9
	Shaft Clips	6 in.	10
	Shaft Clips	4 x 9	7
	Lovejoy Gasket		17
	Grease Cap Gasket		30
	Lovejoy Coupling	1.125	9
	Lovejoy Coupling	1.375	3
	Lovejoy Coupling	1.625	5
	Lovejoy Coupling	1.875	6
	Grease		29
	Silicone		5
	Packing	Cans	13
	Cord	Rolls 5 lbs.	4
	Gortex	Boxes 50 ft.	9.5
	Shafts	4 x 9	3
	Shafts	6 in.	9
	Backing Plates	6 in.	8
	Complete Pumps	6 in.	8
	Complete Pumps	4 x 9 in.	2
	Impellers	10.5 in	2
	Impellers	10 in.	3
	Impellers	9 in.	3
	Impellers	8.5 in.	1
	Impellers	7.75	1
Plumbing Parts:	Check Valve	4 in.	9
	Check Valve	6 in.	6
	Check Valve	8 in.	3

CATEGORY	PART TYPE	SIZE	AMOUNT
	Gate Valve	4 in.	11
	Gate Valve	6 in.	
	Gate Valve	6 in.	11
	Bowl's	9 in.	4
	Bowl's	6 in.	
	Motor Stand	11 in.	7
	Pedestal	6 in.	2
	Suction Elbow	4 in.	3
	Suction Elbow	6 in.	3
	Mechanical Coupling	6 x 12	4
	Mechanical Coupling	6 x 7.5	6
	Mechanical Coupling	4 in.	2
	Bolt Flanges	4 in.	9
	Threaded Flanges	6 in.	4
	Weld on Flanges	4 in.	2
	Weld on Flanges	6 in.	8
Electrical Parts:	Phase Monitor	SLA-440-ALE	11
	Phase Monitor	SLA-230-ALE	10
	Alternator	ARA-24-ACA	8
	AC-Magnetic Starter	A10ENOAB	2
	AC-Magnetic Starter	A1OCNO2	2
	AC- Magnetic Starter	A1OCNOA-O	5
	Overload Relay	10-5650-5	4
	Overload Relay	10-5009-	
	Overload Relay	C3OOCN3	1
	Time Relays	11-PIN-TCRZX	5
	Time Relays	110A-CO4	
	Time Relays	8-PIN-OARZU	6
	Time Relays	110A-2394	
	Warwick Relay	1.61E+02	1
	Gems Safe Pak	PW144600	1
	Clocks	710-0032	8
	Plug in Relay	A1-0796	5
	Plug in Relay	D-5prbt	2
	Coil	RLY 1045	4
	Coil	RLY 2543	4
	Fuses	KT3	10
	Contacts	C32OK B1	6
	Contacts	C32OKK A1	1

CATEGORY	PART TYPE	SIZE	AMOUNT
	Contact Kit	3691	1
	Motor	3 HP	2
	Motor	7 HP	1
	Motor	10 HP	2
	Motor	15 HP	
	Motor	10 HP	1
	Motor	15 HP	1
	Motor	40 HP	3
	Motor	20 HP	1
	Motor	50 HP	1
	Sump Pumps		1
	Vent Motor		5
	Blower (Ventilator)		2
	Control Panel		1
	Mercury Switch		6
	Float Switch		1
	Complete Station		
TOOLS:	Sandblaster		1
	Bench Grinder		1
	Bearing Heater		1
	Drill Press		1
	Compressor	80 gal.	1
	Ventilator (Honda)		1
	Sm. Honda Generator		1
	Gas Pump	3 in.	1
	Water Blaster		1
	Lincoln Welder		1
	Ridged Shop Vacuum		1
	Exterior Ladder	10 ft.	1
	Ladder	8 ft.	1
	Pipe Cutter		2
	Metal Detector		1
	Bolt Cutters	Large	1
	Loppers		1
	Crimper		1
	Compressor	Sm. / 4gpr.	1
	Nail Gun		1
	Gas Detector		1
	Air Pack	30 min.	1
	Belt Sander		1

CATEGORY	PART TYPE	SIZE	AMOUNT
	Electric Band Saw		1
	Palm Sander		1
	Electric Grinder		1
	Electric Grinder	Small	1
	Derma Tool		1
	Roto Zip		1
	Jig Saw		1
	Cordless Hammer Drill		1
	Orbital Buffer	10 in.	1
	Drill Press	Large	1
	Cutoff Saw		1
	Electric Cutoff Saw		1
	Grinder	Large	1
	Skill Saw		1
	Plastic Welder		1
	Cordless Skill Saw		1
	Measuring Wheel		1
	Misc. Concrete Tools		?
	Folly Rep Grinder		1
	Hand Held Radio		2
	TE35 Combihammer Drill		1
MISC.:	½ Round Material	10 ft.	47
	T.V. Truck Winch		1
	T.V. Truck Ext. Cord		1
	Full Circle Clamp		3
	Air Bags		14
	Plugs		9
	Shoring		7
	Clay Spade		1
	Tripod Set		1
	Long Grit Grabber		4
	Jet Hose	¾ in.	1
	Jet Hose	1 in. / 600 ft.	6
	Leader Hose	¾ in. / 4 ft.	2
	Leader Hose	1 in. / 4 ft.	4
	Hose Guide		5
	T.V. Cable	1300 ft.	1
	Telemetry Panel		3

CATEGORY	PART TYPE	SIZE	AMOUNT
Behind Shed:	Ring/Cover Storm		3
	Ring/Cover Sewer		10
	Riser Rings		60
	Catch Basin Cover		4
	Storm Drain Box Grate	Small	5
	Storm Drain Box Grate	Large	3
	Station door	Small	1
	Station Door	Large	1
	Store Room:	Telemetry System	
Battery Back Up			9
Telemetry System			12
56K Modem			1
Camera Truck Parts			
TV Truck # 601			
Toolbox:	Chisel		2
	Nut Driver		1
	Screw Driver		2 or 3
	Phillips Screw Driver		2 or 3
	Channel Locks	Small	1
	Channel Locks	Large	1
	Camera Koala Ques	Small	1
	Camera Koala Ques	Medium	2
	Camera Koala Ques	Large	1
	Allen Sets		3
	Crescents		2 or 3
	Pliers		2 or 3
	Cordless Drill	9.6 V	1
	Wrench Set		1
	Hack Saw		1
	20 oz. Hammer		1
	¾ Socket Driver		1
	Box of Parts		1
	Respiratory Escape Pack	5 min.	1
	Ques VCR, T.V., Printer Equip.		
	Electrical Cords Controls		
	Sewer Plugs	8 in.	2
	Portable Air Tank	5 gal.	1
UNIT # 674	Polaroid Camera		1
	Socket Set		1

CATEGORY	PART TYPE	SIZE	AMOUNT
	Screw Driver Set		1
	Trailer Hitch		1
	Pliers		1
	Needle Nose Pliers		1
	Open End Wrench Set		1
	Claw Hammer		1
	Sledge Hammer		1
	Pick		1
	Jumper Cables		1
	Flashlight	MPG	1
	Flashlight	Candle Power	1
	Flashlight	6 Volt	1
	Hydrant Wrench		1
	Crescent Wrench	Small	1
	Crescent Wrench	Medium	1
	Pry Bar		1
	Hand Saw		1
	Razor Knife		1
UNIT # 675:	Toolbox		1
	Light		1
	Paddle Sign		1
	Hammer	20 oz.	1
	Screw Drivers		3
	Phillips Screw Driver		2
	Channel Locks		2
	Pliers		1
	Crescent Wrench	8 in.	1
	Crescent Wrench	12 in.	1
UNIT # 677:	Nut Driver Set		1
	Open End Wrench Set	20	1
	Socket Set	40	1
	Mag-Light Flashlight		3
	Generator		1
	Chaixi Pulley		1
	Tap/Die Set		1
	Electrical Extension		2
	Box of Fittings		1
	Dolly		1
	Come Along		1
	Oscilloscope		1
	Ear Protection		2

CATEGORY	PART TYPE	SIZE	AMOUNT
	Hard Hats		2
	First Aid Kit		1
	Rubber Mallet		1
	Sledge hammer		1
	Blower		1
	Safety Harness		1
	Jumper Cables		1
	Weld Mask		2
	Face Shield		1
	Torches	Small	1
	Torches	Large	1
	Air Drill		1
	Air Gun	Medium/Large	3
	Air gun	Small	3
	Air chisel		3
	Air Ratchet		2
	Air Grinder	Small	2
	Air Wire Wheel		2
	Crescent Wrench	Small	1
	Crescent Wrench	Medium	1
	Crescent Wrench	Large	1
	Crescent Wrench	X-Large	1
	Pipe Wrench	Small	1
	Pipe Wrench	X-Large	1
	Allen Wrench		2
	Grease Gun		1
	Crow Bars	Small	1
	Crow Bars	Medium	1
	Crow Bars	Large	1
	Crow Bars	X-Large	1
	Channel Locks		2
	Wire Stripper		1
	Side Cutter		1
	Hammers		1
	Vise Grips		1
	Hack Saw		1
	Wire Brush		1
	Scrappers		3
	Screwdriver		1
	Drill Set		1
	Tape Measure	25 ft.	2

CATEGORY	PART TYPE	SIZE	AMOUNT
	Wood Saw		1
	Fire Extinguisher		1
	2 R.T.U		2
	Air Packs	10 min.	2
	Bolts	½ - 1 1/8	
	Oxy Settling		2
	Safety Strobes		1
	Water Tank w/ Mot.		1
	Water Hose	50 ft.	1
	Pole choppers		3
	Rubber Bucket		1
UNIT # 678:	Mag-Light		1
	Socket Set		1
	Cones		5
	Manhole Pick		1
	Shovel	Small	1
	Scraper		1
	Clam Digger		1
	Fire Extinguisher		1
	Grease Gun		1
	Safety Triangles		1
	Rechargeable Flashlight		1
	Hack Saw		1
	Pipe Wrench		3
	Screw Drivers		8
	Crescent Wrench		3
	Tape Measure		1
	Razor Knife		1
	Hex Key Set / Allen Wrench		1
	Open/Closed Wrench Set		1
	Hammer		1
	Channel Locks		2
	Sledge Hammer	Small / 3 lb.	1
	Nut Driver Set		1
UNIT # 679:	Mag-Light Flashlight		1
	Socket Set		1
	Cones		6
	Manhole Pick		2
	Shovel	Small	1
	Scraper		1
	Clam Digger		1

CATEGORY	PART TYPE	SIZE	AMOUNT
	Grabber		1
	Fire Extinguisher		1
	Safety Triangles		1
	Grease Gun		1
	Flashlight		1
	Hack Saw		1
	Wire Brush		1
	Sledge Hammer	3 lb.	1
	Sledge Hammer	8 lb.	1
	Pipe Wrench		1
	Screwdrivers		2
	Crescent Wrench		2
	Tape Measure		1
	Razor Knife		2
	Hex Key Set / Allen Wrench		1
UNIT # 680:	Pipe Wrench	18 in.	2
	Socket Set		24
	Duct Tape	Rolls 5 lbs.	3
	Grease Gun		2
	Hand Sledge		1
	Nut Drivers		10
	Plastic Flashlight		1
	Black Mag-Light		1
	Hand Held Mirrors		2
	Razor Knife		2
	Hex Sets		2
	Crescent Wrenches	12 in.	2
	Pliers		2
	Channel Locks	Small	1
	Channel Locks	Large	1
	Needle Nose Pliers	Small	1
	Hammer		1
	Wire Brush		1
	File		1
	Phillips Screw Driver	Large	3
	Picks		2
	Sledge Hammer		1
	"Stop"/"Slow" Sign		1
	Nozzles		6
	Vacuum Tubes		7
	Hydrant Wrench		1

CATEGORY	PART TYPE	SIZE	AMOUNT
	Scraper		1
	Push Broom		1
	Rake		1
	Clamps		6
	Chopper		1
	Fire Extinguisher		1
	WD40		1
	Clam Digger		1
	Grabber		1
	Rubber Bucket		1
	Cones		6
	Rope		6
	First Aid Kit		1
UNIT # 681:	Mag-Light Flashlight		1
	Spotlight		1
	Water Screen Wrench		1
	Safety Pole Lock		1
	Pole For Vacuum Screen		1
	Grease Nozzle	65 gpm.	3
	Nozzles	2 in.	2
	Buzz Bomb	65 gpm.	1
	Sand Nozzle	4 in.	3
	Hand Gun Sprayer		1
	Hose		2
	Sledge Hammer		1
	Sledge Hammer	Mini	1
	Pick		1
	Grease Gun		1
	Rubber Bucket		1
	Chopper Head		1
	Chopper Extension		5
	Chopper Connection		5
	Hook Head		1
	Grabber		1
	WD40		1
	Glass Cleaner		1
	Tubes		1
	Tubes		1
	Tubes		2
	Crescent Wrench		2
	Hex Key Set / Allen Wrench Set		1

CATEGORY	PART TYPE	SIZE	AMOUNT
	Phillips Screwdriver		2
	Screwdriver		1
	Razor Knife		1
	Hack Saw		1
	Pliers		1
	Channel Locks		1
UNIT # 683:			
	Air Tools – Drill	GP 3 x 8 x 24	1
	Air Tools – Drill	½ in.	1
	Air Tools – Grinder	4 in.	1
	Air Tools – Impact Wrench	½ in.	1
	Air Tools – Chisel Gun		1
	Set Drill Bits		1
	Level	6 in.	1
	Level	2 ft.	1
TOOLBOX:			
	Nuts/Bolts/Drill Bits		1
	Screw Driver		2
	Phillips Screw Driver		2
	Channel Locks	Small	1
	Files	Small	3
	Allen Sets	Ekland # 20911	1
	Hammer	20 oz.	1
	Chisel	Small	1
	Putty Knife		1
	Crescent Proto	8 in.	1
IN TRUCK:			
	Light	1 Millionth LP	1
	Mag-Light	4 in.	1
	Tie Down Strap		2
	Face Shield		1
	Safety Goggles		1
	Tape	16 in.	1
	Tape	25 in.	1
	Rope	25 ft.	2
	Set Easy Out		1
	Tap/Die Set		1
	Socket Set	Mm	1
	Socket Driver Set	½ in.	1
	Socket Driver Set	¾ in.	1
	Electrical Cord	50 ft.	1
	Screw Driver Set		1

CATEGORY	PART TYPE	SIZE	AMOUNT
	Phillips Screw Driver Set		1
	Channel Lock Set		4
	Long Nose Pliers		3
	Pliers		2
	Vise Grips		3
	Crescent Wrench	8 in.	1
	Crescent Wrench	10 in.	1
	Crescent Wrench	12 in.	1
	Crescent Wrench	24 in.	1
	Combination Wrench Set	11 pc.	1
	Wrench Set	8 pc.	1
	Hack Saw		1
	Wire Brush		2
	Files Baster		5
	Mallot Hammer	# 3	1
	Hammer	20 oz.	1
	Pry Bar	Small	1
	Pry Bar	Large	1
	Pipe Wrench	14 in.	2
	Pipe Wrench	24 in.	1
	Pipe Wrench	36 in.	1
	Hand Broom		1
	Push Broom	Large	1
	Brass Hammer	Small	1
	Sledge Hammer	Size 12	1
	Matte Knife		1
	Pick		1
	Pry Bar		1
	Compressor	Large	1
	Bolt Cutters	24"	1
	Footage Wheel		1
	Hand Saw		1
	Air Bottle	30 in.	2
	Face Mask		2
	Escape Mask	5 min.	1
	Multi-gas Detector		8
	Talk-about Radio		2
	Pelican Case		1
	Hand Pump		1