

# Bureau of Engineering

# Special Order

February 11, 2004

Special Order No. 001-0204

To All: Deputy City Engineers  
Division Engineers  
Division Heads  
Group Managers

Subject: **DEWATERING DURING CONSTRUCTION**

In urbanized areas, many technical concerns have existed to avoid dewatering. By not dewatering, the risks associated with soil settlement and mobilizing plumes of subsurface contamination are minimized. The recent adopted Joint Board Report No. 1, dated, October 10, 2003 (Attachment), provides further reason to avoid dewatering. For the purposes of this Special Order, dewatering is the use of pumps or other motorized machinery to extract water from cofferdams, shafts, excavations or drilled wells. Dewatering effluent is generated once that water is removed from the ground. These dewatering restrictions apply to all Bureau projects and projects constructed under permit within in the City right-of-way. Construction without dewatering continues to be preferred.

During the evaluation of proposed construction sites and construction methods, the Project Manager is reminded to consult with the Geotechnical Engineering Group to identify all relevant subsurface conditions and to re-assess any apparent need to dewater. This may include additional studies to identify alternatives to dewatering or additional exploratory wells and pump tests to better characterize the quantity and quality of unavoidable dewatering. If alternatives are reasonable and feasible without dewatering, the Plans and Specifications must indicate that "Dewatering is not allowed." If dewatering is allowed, a Dewatering Plan must be developed with plan check and permits required.

## **Dewatering Plan, Plan Check and Permit**

A Dewatering Plan must be developed where dewatering is allowed as a construction option. The Project Manager (for Bureau design projects), engineer-of-record (for projects under permit) or Contractor's engineer (for dewatering requested by the Contractor) is responsible for assembling the following.

- An engineering report explaining why alternatives to dewatering are not feasible. Examples of alternatives that must be considered include construction in the "wet" or staged construction during seasons with lower groundwater tables.
- A geotechnical report addressing the potential for soil settlement, a detailed settlement monitoring system, the potential for mobilizing contamination plumes, the estimated volume of extracted groundwater and anticipated quality of extracted groundwater. Dewatering operations must be designed to: Avoid surface settlements, avoid mobilizing contaminated material and avoid generating excessive volumes of effluent.

- Steps taken to minimize the volume, to monitor and improve the quality of dewatering effluent. Examples include soil pretreatment, watertight shoring and cutoff walls.
- Identification of dry-weather and wet-weather disposal sites for dewatering effluent. Sanitary sewers are now the primary disposal sites for dewatering effluent. Disposal into storm drains may only be used as a last resort and will be heavily regulated.
- Approval of the Dewatering Plan by the Bureau of Sanitation (BOS) - Wastewater Engineering Services Division (WESD). It should be noted that Project conditions may preclude BOS-WESD approval and require review from the Regional Water Quality Control Board for plan check, approval and a site-specific National Pollutant Discharge Elimination System (NDPES) permit.
- Obtaining a BOS Industrial Waste Permit for disposing dewatering effluent into sanitary sewers.

Dewatering effluent is nuisance water that must be monitored and pretreated to comply with water quality regulations prior to disposal. If dewatering effluent must be generated, the sanitary sewer system is the first choice for disposal if sufficient capacity exists. Where sanitary sewer capacity is insufficient, discharge to a storm drain may be considered as the last resort after all economically feasible means are taken to reduce groundwater generation.

( WAL WHH PLR )

Attachment

DISG/HL/gva  SO No. 001-0204	Approved By:   Gary Lee Moore, P.E., City Engineer
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*Policy*

ADOPTED BY THE BOARD OF  
PUBLIC WORKS OF THE CITY  
of Los Angeles, California

DEPARTMENT OF PUBLIC WORKS

OCT 10 2003

BUREAU OF SANITATION

BUREAU OF ENGINEERING

BUREAU OF CONTRACT ADMINISTRATION

JOINT BOARD REPORT NO. 1

OCTOBER 10, 2003

*James H.*  
Secretary

164252

CD: ALL

POLICY FOR DISPOSAL OF GROUNDWATER FROM PUBLIC WORKS  
CONSTRUCTION PROJECTS

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RECOMMENDATION

Require all groundwater from Public Works construction dewatering activities to be discharged to the sewer system if sufficient capacity exists. If the sewer capacity is insufficient, alternate designs and construction methods should be considered before using the storm drains system as a last resort.

TRANSMITTALS

1. Administrative Civil Liability (ACL) dated September 27, 2002 for February, March, and April of 2000
2. Flow Charts for Design and Construction Phases of the Disposal of Water Generated by Construction Dewatering Operation for Public Works Projects Only.

DISCUSSION

**Background**

The Department of Public Works received a Notice Of Violation in September 27, 2002 (Transmittal No. 1), from California Regional Water Quality Control Board (RWQCB) while constructing the Marina Interceptor Sewer Trunk Line along Jefferson Blvd in the City of Los Angeles. During construction, 180,000 gpd of extracted groundwater was treated (desilted) and discharged in to the area's storm drain system under a RWQCB's issue discharge permit. The extracted groundwater contained total suspended solid (TSS), benzene, trichloroethylene, oil and grease (O&G) and turbidity all of which were within the storm water limits and were being monitored continuously. The extracted groundwater was being discharged to the storm drain system into Ballona Creek. The concentrations in the discharge increased in February, March and April of 2002, leading to violations of California Water Code article 13376 and Order No 97-045 (NPDES No. CAG 994001) for exceeding the effluent limitations for group I pollutants (O&G and TSS) and group II pollutants (Benzene and

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trichloroethylene) as specified in Appendix A to article 123.45 of Title 40 of CFR by the RWQCB. The City was assessed a mandatory minimum penalty in the amount of \$51,000 for the violations that occurred in February, March and April 2000. As a result of the violations Sanitation conducted a review of various construction activities that generate groundwater discharges to determine if a policy was needed to regulated the disposal of these discharges in the future.

A workshop was conducted in February 2003 with representatives from Bureau of Engineering (BOE), Department of Water and Power (DWP), Los Angeles Department of Building and Safety (LADBS), Bureau of Contract Administration, and other various offices in the Bureau of Sanitation that provide engineering and operations support to the sewer and storm drain systems. Discussion included a review of the complaint from the RWQCB for the Marina Interceptor Sewer, the existing contract requirements for Public Works projects and input from DWP and LADBS on their past and current practices for dewatering on construction projects. Each entity described their respective construction projects and their current and past practices for disposal of groundwater from construction dewatering activities. These projects generally fall into the following categories:

1. Public Works projects consisting of primarily sewer and other wastewater projects, large buildings with deep footings and various underground facilities.
2. Department of Water and Power Projects and other utility projects.
3. Private sector projects.

Of these categories it was felt that only the first category, Public Works projects, poses a significant risk and liability for the Bureau of Sanitation and Department of Public Works. The remaining projects discharge their groundwater thru NPDES permits that attach liability with the project owner and these permits are currently enforced by the RWQCB. However, the RWQCB has started to utilize the Bureau of Sanitation, Watershed Protection Division for other storm water enforcement functions and it is possible they may continue with this trend and eventually extend it to the NPDES permits they issue for groundwater discharges to the storm water system.

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The Department of Public Works acts as the project owner on various construction projects throughout the City. Some of these projects consist of sewers and other wastewater projects, large buildings with deep footings and various underground facilities that involve dewatering and groundwater disposal activities. The past practice for groundwater disposal has been to use either the storm drain system or sewer system because they are usually readily accessible at the nearest street. In addition, the storm drain system has not been subject to extensive regulation in the past. However, recently adopted storm water discharge regulations require more extensive monitoring, reporting and/or pretreatment (desilting, pollutant removal) efforts. These new requirements are specified in LARWQCB Order No. 01-182, which prohibits discharges that cause or contribute to the violation of Water Quality Standards or water quality objectives. It also requires the permittee to conduct extensive monitoring, sampling, pretreatment and Best Management Practices (BMPs).

The disposal of groundwater from Public Works construction activities to the storm drain system now poses a more significant risk and liability than it did in the past. This liability is passed on to the project owner, i.e., the Department of Public Works. Given the increasingly stringent regulatory requirements and difficulty in monitoring groundwater on continuous basis and the cost involved in complying with those requirements it is recommended that the following policy be adopted for all future Public Works projects with groundwater disposal needs:

1. All future Public Works projects with groundwater disposal needs shall utilize the sewer system as the first choice of disposal if sufficient capacity exists.
2. If the sewer system does not have adequate reserve capacity for the groundwater discharge from a project then other construction/design alternatives to reduce groundwater-disposal needs should be explored to a point that is commensurate with the available capacity.
3. Discharge to the storm drain system should be the option of last resort and utilized only if insufficient capacity exist and if it is not economically feasible to reduce groundwater disposal needs.

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4. The Bureau of Engineering shall submit all groundwater disposal requests to the Bureau of Sanitation for review during the design phase for preliminary approval.

Projects that dispose of groundwater to the sewer system shall continue with the current policy of requiring an Industrial Waste Water Permit.

( AHH BJB RJK JFL RTH RJB )

Respectfully submitted,



JAMES F. LANGLEY  
Interim Director  
Bureau of Sanitation



BRADLEY M. SMITH  
Interim City Engineer  
Bureau of Engineering



BRIAN K. WILLIAMS  
Interim Inspector of Public Works  
Bureau of Contract Administration

Prepared by:  
Abdul Danishwar, WESD  
323) 342-6220

101003-1

RECEIVED BUREAU OF ENGINEERING  
ADMINISTRATIVE SERVICES  
LETTER FILES

OCT 16 2003

ASSIGNED *EXECS*  
*prob. AHH*

*FAX to Chris Washburn*

*I don't think we  
all the discharges  
the contracts  
held the  
permit to  
discharge  
into the  
storm drain*

**STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION**

In the matter of:	)	Complaint No. RA-2002-0046	<i>into the</i>
	)	Mandatory Minimum Penalty	<i>Storm drain</i>
	)	for	<i>Please advise</i>
Department of Public Works	)	Violation of California Water Code § 13376	<i>J</i>
City of Los Angeles	)	and	
Marina Interceptor Sewer	)		
Los Angeles, California	)	Order No. 97-045 (NPDES No. CAG994001)	

This Complaint to assess the mandatory minimum penalty pursuant to California Water Code (CWC) § 13385, subdivisions (b) & (l) is issued to the City of Los Angeles (hereafter referred to as the Discharger) based on findings of violations of waste discharge requirements prescribed in Order No. 97-045 (NPDES No. CAG994001, CI No. 8110).

**The Executive Officer finds the following:**

- The Discharger, by and through its Public Works Department, constructed the Marina Interceptor Sewer Trunk Line (Facility) along Jefferson Boulevard in Los Angeles. Construction was completed in November 2000. During construction, the Discharger generated up to 180,000 gallons per day (gpd) of wastewater at the construction site which consisted of extracted groundwater which the Discharger treated in a three chamber desludging/desanding basin and then discharged to the area's storm drain system, at one or any combinations of three distinct discharge points. The wastewater was susceptible of containing total suspended solids (TSS), benzene, trichloroethylene (trichloroethene), oil and grease (O&G) and turbidity and other pollutants which can degrade water quality and impact beneficial uses of water, and which are defined as wastes under the Porter-Cologne Water Quality Control Act (CWC § 13000 et seq.). The wastewater flowed through the storm drain system into Ballona Creek, a navigable water of the United States. In May 2000, the Discharger ceased discharging its waste waters to the storm drain system and commenced discharges thereof to the sanitary sewer system. As a result, waste discharge requirements of Order No. 97-045 as applied to the Discharger were terminated on November 9, 2001.
- On November 24, 1999, the Executive Officer of the Regional Water Quality Control Board, Los Angeles Region (Regional Board), determined that the waste discharges from the Discharger's facility met the conditions to be enrolled under Board Order No. 97-045 adopted by the Regional Board on May 12, 1997, and the facility was so enrolled effective November 24, 1999. Board Order No. 97-045 serves as General NPDES permit No. CAG994001 (General National Pollutant Discharge Elimination System Permit and

Project/Fax Note	7071	Date	10/10/02	# of pages	7
By	Lorschelder	From	Judy Wilson		
Co./Dept.		Co.			
Phone #		Phone #	410-7999		
Fax #	342-6210	Fax #			

September 27, 2002

Waste Discharge Requirements for Groundwater Discharges from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties).

3. Order No. 97-045 (Part E, page 7 and Attachment B page B-1) includes the following effluent limitations for total suspended solids (TSS), benzene, trichloroethylene (trichloroethene), oil and grease (O&G) and turbidity:

Constituent	Unit of Measure	Discharge Limitations (daily maximum)	Discharge Limitations (monthly average)
TSS	mg/L	150	50
Benzene	µg/L	1.0	-
O&G	mg/L	15	10
Turbidity	NTU	150	50
Trichloroethylene	µg/L	5.0	-

mg/L = milligrams/liter; µg/L = micrograms/liter; NTU = nephelometric turbidity units

Any discharge containing pollutants exceeding the effluent limitations set in the waste discharge requirements is prohibited by CWC § 13376.

4. Among the provisions in the Discharger's waste discharge requirements are the requirements to implement a discharge monitoring program and to prepare and submit monthly NPDES self-monitoring reports to the Regional Board.

In its monthly report for February 2000, the Discharger reported that it exceeded the effluent limitations as follows:

DATE	VIOLATION TYPE	CONSTITUENT	REPORTED VALUE	PERMIT LIMIT	% EXCEEDED
2/10/00	Daily	Turbidity	167 NTU	150 NTU	11*
2/10/00	Daily	TSS	414 mg/L	150 mg/L	176**
2/10/00	Daily	TSS	263 mg/L	150 mg/L	75
2/16/00	Daily	Turbidity	425 NTU	150 NTU	183*
2/23/00	Daily	TSS	482 mg/L	150 mg/L	221
2/25/00	Daily	Turbidity	200 NTU	150 NTU	33*
2/25/00	Monthly	TSS	309.75 <sup>1</sup> mg/L	50 mg/L	520
2/25/00	Monthly	Turbidity	200.75 <sup>1</sup> NTU	50 NTU	302 <sup>1</sup>

mg/L = milligrams/liter; NTU = nephelometric turbidity units  
Average

\*See Paragraph 6 below

\*\*See Paragraph 5 below; <sup>1</sup> serious violation in six month period

In its monthly report for March 2000, the Discharger reported that it exceeded the effluent limitations as follows:

DATE	VIOLATION TYPE	CONSTITUENT	REPORTED VALUE	PERMIT LIMIT	% EXCEEDED
3/31/00	Daily	Trichloroethylene	9.5 µg/L	5.0 µg/L	90
3/31/00	Daily	Benzene	6.2 µg/L	1.0 µg/L	520
3/31/00	Daily	O&G	27 mg/L	15 mg/L	80
3/31/00	Monthly	TSS	146 mg/L	50 mg/L	192
3/31/00	Monthly	Turbidity	67 NTU	30 NTU	34*
3/31/00	Monthly	O&G	27 mg/L	10 mg/L	80

NTU = nephelometric turbidity units; µg/L = micrograms/liter; mg/L = milligrams/liter  
\*See Paragraph 6 below

In its monthly report for April 2000, the Discharger reported that it exceeded the effluent limitations as follows:

DATE	VIOLATION TYPE	CONSTITUENT	REPORTED VALUE	PERMIT LIMIT	% EXCEEDED
4/27/00	Daily	TSS	1,490 mg/L	150 mg/L	893
4/27/00	Daily	Turbidity	2,700 NTU	150 NTU	1700*
4/27/00	Monthly	TSS	361.6 <sup>1</sup> mg/L	50 mg/L	623.2
4/27/00	Monthly	Turbidity	588.5 <sup>1</sup> NTU	50 NTU	1077*

NTU = nephelometric turbidity units; µg/L = micrograms/liter; mg/L = milligrams/liter  
<sup>1</sup>average

\*See Paragraph 6 below

O&G and TSS are specified as Group I pollutants in Appendix A to § 123.45 of Title 40 of the Code of Federal Regulations (CFR). Benzene and trichloroethylene are specified as Group II pollutants in Appendix A to § 123.45 of Title 40 of the CFR. Pursuant to CWC § 13385(h)(2)(A) a "serious violation" is defined as any waste discharge that exceeds the effluent limitations by 40% or more for a Group I pollutant or by 20% or more for a Group II pollutant. The Discharger's discharges on 2/10/00, 2/25/00, 3/31/00, and 4/27/00 constituted serious violations as defined in CWC § 13385(h).

The violations of turbidity on 2/10/00, 2/25/00, 3/31/00, and 4/27/00 constitute violations as defined in CWC § 13385(i).

- CWC § 13385(h) requires the Regional Board to assess a mandatory minimum penalty of three thousand dollars (\$3,000) for the first serious violation in any six-month period or, in lieu of the penalty for the first serious violation, require the Discharger to spend an equal amount by carrying out a Supplemental Environmental Project (SEP), or developing a Pollution Prevention Plan (PPP). That section also requires the assessment of additional penalties for subsequent serious violations.
- California Water Code § 13385(i) requires the Regional Board to assess a mandatory minimum penalty of three thousand dollars (\$3,000) for each violation whenever the

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discharger exceeds a waste discharge requirement effluent limitation in any period of six consecutive months, except that the requirement to assess the mandatory minimum penalty shall not be applicable to the first three violations.

7. The maximum amount of administrative civil liability pursuant to CWC § 13385 for each day of violation is \$10,000 per day of violation plus \$10 times the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

**The Discharger IS HEREBY GIVEN NOTICE THAT:**

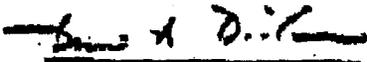
1. The Executive Officer of the Regional Board proposes that the Discharger be assessed a mandatory minimum penalty in the amount of \$51,000 for the violations which occurred during February, March and April 2000. Refer to the Penalty Chart attached hereto and incorporated herein by reference for the calculation of the amount of mandatory minimum penalty.
2. A hearing shall be conducted on this Complaint by the Regional Board or Regional Board Hearing Panel (Hearing Panel) within 60 days after service of this Complaint on the Discharger pursuant to CWC § 13323. The Discharger will be notified of the date, time and location of the Hearing. The Discharger may waive the right to a hearing. Should the Discharger choose to waive the right to a hearing, an authorized agent must sign the waiver form attached to this Complaint and return the executed waiver to the Regional Board at 320 West 4<sup>th</sup> Street, Suite 200, Los Angeles, CA 90013, to be received by the Regional Board by the close of business on October 11, 2002. If the hearing is waived, the following options are available to satisfy the civil liability:
  - a. A check in the amount of \$51,000 (payable to the State Water Resources Control Board Cleanup and Abatement Account) shall accompany the signed waiver or
  - b. The Discharger may propose to pay up to \$3,000 of the civil liability by:
    - i contributing to a SEP on the Regional Board approved SEP List [www.swrcb.ca.gov/cwncb4/html/programs/enforcement.html](http://www.swrcb.ca.gov/cwncb4/html/programs/enforcement.html).
    - ii carrying out the Discharger's own SEP or
    - iii developing a PPP.

In the event that the Discharger proposes to invest in a SEP or PPP, a check in the amount of \$48,000 (payable to the State Water Resources Control Board Cleanup and Abatement Account) together with the Discharger's written statement that a SEP (whether to contribute to a SEP on the SEP List or to carry out an independent SEP) or PPP proposal will be submitted along with the executed waiver and received by the Regional Board by the close of business on October 11, 2002.

If the Discharger elects to contribute to a SEP on the SEP List, the Discharger shall pay \$3,000 to the chosen SEP by the close of business on October 25, 2002. The Discharger shall also notify the Regional Board of the date, amount and method of payment by the close of business on October 25, 2002.

If the Discharger proposes to carry out an independent SEP or develop a PPP, a detailed proposal shall be received by the Regional Board by the close of business on October 25, 2002. A proposal for an independent SEP or PPP will be subject to public notice and approval of the Regional Board. Should the Regional Board not approve the Discharger's proposal for a SEP or PPP, or should the Discharger later fail or elect not to implement the proposed SEP or PPP, the remainder of the total Administrative Civil Liability will be due and payable within 30 days of such an event.

3. In the event that the Discharger fails to comply with the requirements of this Complaint, the Executive Officer is authorized to refer this matter to the Office of the Attorney General for enforcement.
4. Notwithstanding the issuance of this Complaint, the Regional Board shall retain the authority to assess additional penalties for violations of the requirements of the Discharger's waste discharge requirements.
5. This enforcement action is exempt from the provisions of the California Environmental Quality Act, California Public Resources Code § 21000 et seq., in accordance with California Code of Regulations, title 14, § 15321.

  
Dennis A. Dickerson  
Executive Officer

September 27, 2002  
Dated

City of Los Angeles Department of Public Works  
Complaint No. RA-2002-0046

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**WAIVER OF THE RIGHT TO A HEARING**

By signing below and attaching a check for the amount of civil liability (\$51,000) proposed in Administrative Civil Liability Complaint No. RA-2002-0046, or by signing below and attaching a signed statement committing to a contribution towards a Supplemental Environmental Project (SEP) on the Regional Board approved SEP list, completion of an independent SEP or preparation of a Pollution Prevention Plan subject to Regional Board approval for \$3,000, and by attaching a check for the remainder of the civil liability (\$48,000), The Discharger, on behalf of itself, waives the right to a hearing before the Regional Board or Hearing Panel. The Discharger understands that it is forgoing its right to argue against the allegations made by the Executive Officer in this Complaint, and against imposition of, and the amount of, civil liability imposed. Furthermore, the Discharger understands that if an Administrative Civil Liability Order is adopted by the Regional Board, payment will be due thirty days after the date of adoption.

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_

City of Los Angeles Department of Public Works

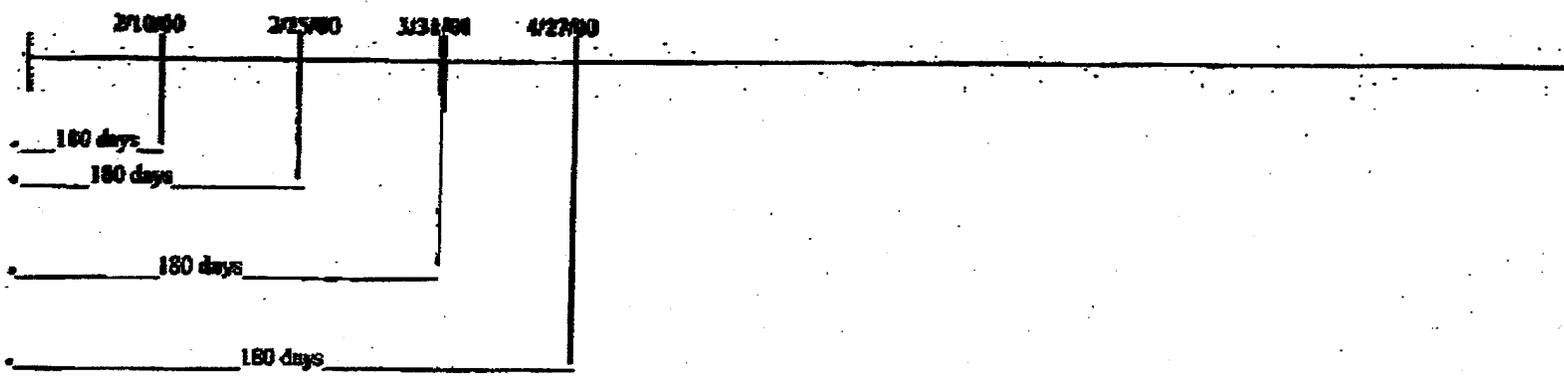
Date: \_\_\_\_\_

V1, S2  
S3, V4

S5, V6  
S7, V8

S9, S10  
S11, S12  
V13, S14

S15, V16  
S17, V18



<b>TOTAL = \$51,000</b>				
V1 = 0	S1 = \$3,000	S9 = \$3,000	V13 = \$3,000	S17 = \$3,000
S2 = \$3,000	V6 = \$3,000	S10 = \$3,000	S14 = \$3,000	V18 = \$3,000
S3 = \$3,000	S7 = \$3,000	S11 = \$3,000	S15 = \$3,000	
V4 = \$3,000	V8 = \$3,000	S12 = \$3,000	V16 = \$3,000	

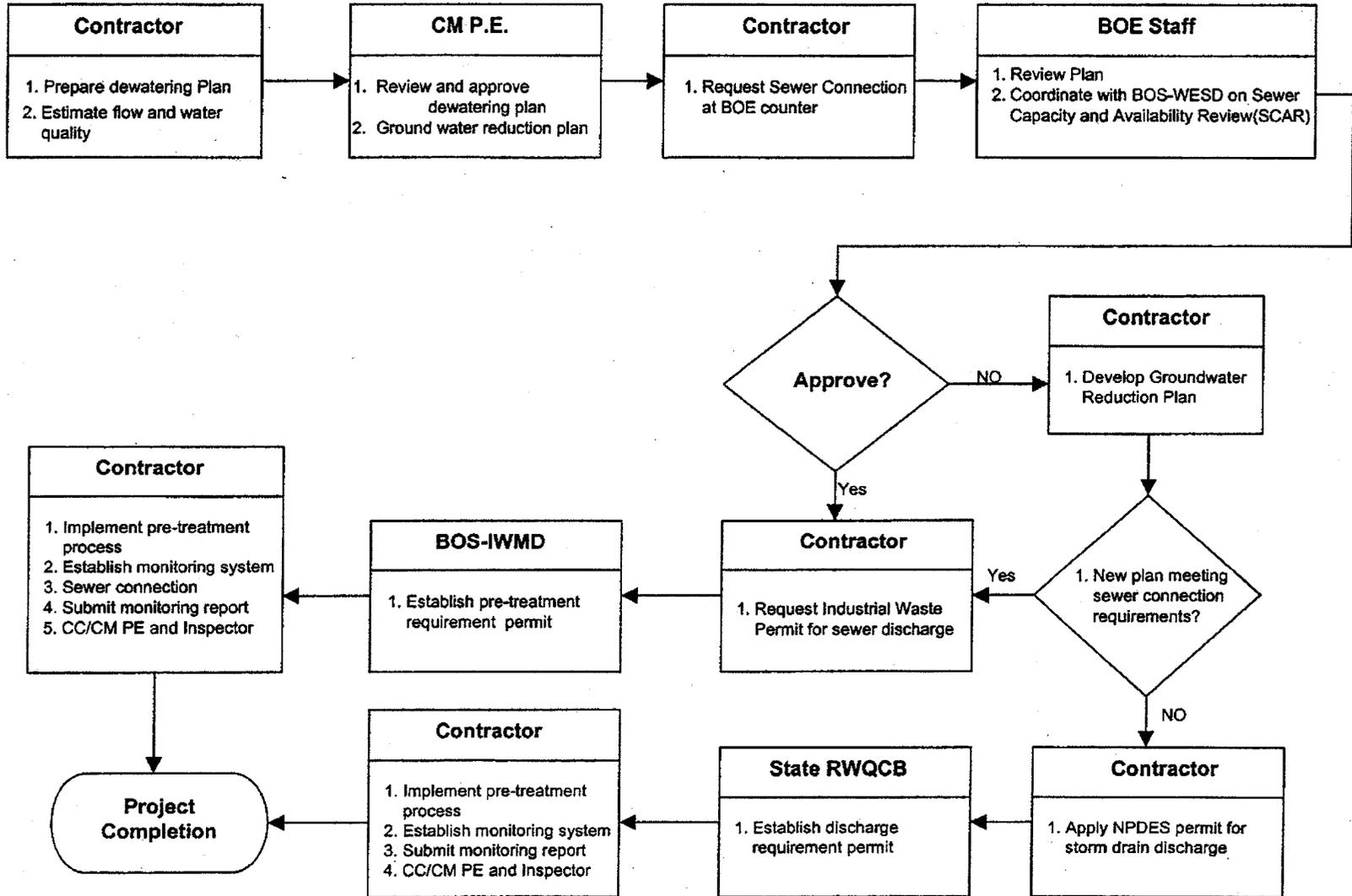
**Legend**

- Beginning of 180 day count
- S An exceedance of an effluent limitation that also qualifies as "serious" under 13385(h)(1)
- V An exceedance of an effluent limitation subject to 13385(i)(1)

# Disposal of Water Generated by Construction Dewatering Operation (DRAFT)

## For Public Works Projects Only

### CONSTRUCTION PHASE



# Disposal of Water Generated by Construction Dewatering Operation (DRAFT) For Public Works Projects Only DESIGN PHASE

