Comparison of existing WMD Regulations Regarding the Industrial/Commercial/Institutional Self Supply Demonstration of Demand and Proposed CFWI Uniform Rule Concepts

Demonstration of Demand				
	SJRWMD	**SFWMD**	**SWFWMD**	**CFWI uniform rule concepts**
Commercial/ Industrial/ Institutional/ Electric Power Generation	2.2.3 2.2.3.1 Commercial/ Industrial/ Institutional Allocation Reasonable need is based on the amount of water needed to perform a commercial/ industrial/ institutional process in an efficient, non-wasteful and economic manner. If the criteria listed in Section 1.3.6[1] or 1.3.7[2] are satisfied, the allocation will be equal to the reasonable need for water. A reasonable need for water is the greatest allocation which staff will recommend.	2.3.2 D. Industrial/ Commercial/Power Plants Applicants must demonstrate that the quantities applied for relate to reasonable processing and manufacturing needs. The applicant shall demonstrate need for the water by providing information on the water balance for the operation, including all sources of water and losses of water utilized in production processes, personal/sanitary needs of employees and customers, treatment losses, and unaccounted uses. 2. Demand Components Applicants for industrial/commercial uses must identify the demand for each of the following components: a. Process requirements - water lost in processing and manufacturing where water is	2.4.4 Applicants must demonstrate that the quantities applied for relate to reasonable office, processing and manufacturing needs including, but not limited to, water parks, theme parks aquariums, zoos, and attractions. Needs are generally demonstrated by providing information on the water balance for the operation, including all sources and uses of water as well as all losses and reuses of water in production and commercial processes, personal/sanitary needs, landscape irrigation, office, treatment losses, and unaccounted uses. Applicants for Industrial/ Commercial use must identify the demand for each of the following components: A. Personal/sanitary use – water for personal needs such as drinking, bathing, cooking, sanitation, or cleaning spaces. For offices and work areas, the calculation should take into consideration: the average number of visitors and employees per shift, the number of shifts per	1. Applicants must demonstrate reasonable demand for the following: a. Processing and manufacturing needs b. Office and personnel needs (personal/sanitary use) c. Landscaping and irrigation needs d. Other needs 2. Reasonable demand demonstration satisfied by providing following information: a. Processing and manufacturing needs - demonstrated by preparing a water balance: i. Showing where water is used in manufacturing or processing, water lost in manufacturing or processing, where and in what quantities water is disposed of or lost. ii. Water balance may be in form of spreadsheet or flow diagram indicating all water sources and losses. All water sources that input to activity must be listed – e.g. groundwater from wells, groundwater from dewatering, surface water withdrawals, collected rainfall, recycled or reused water. The amount of water sources used should equal the sum of the water used, lost and disposed. iii. Uses and losses must be listed including as applicable: (a) Water used to wash product. (b) Evaporation from settling/recirculation ponds. (c) Water retained and shipped with product.

[1] 1. It must be reasonable beneficial; and 2. It must be allowable under the common law of the State.
[2] 1. It must be a reasonable-beneficial use; 2. It must not interfere with any presently existing legal use of water; and 3. It must be consistent with the public interest.

		an input in the process. This quantity is determined through the calculation of a water balance. The water balance demonstrates where water is generated and in what quantities, where water is used in manufacturing or processing and the associated losses, and where and in what quantities water is disposed of or reused. The balance may be in the form of a spreadsheet or a flow diagram that indicates all water sources and losses. All sources of water that input to the activity must be listed. b. Other uses - determined by calculating the total withdrawal quantity minus the quantity for the uses identified above. Other uses include lawn and landscape irrigation, outside use, air conditioning and cooling, water lost through leaks, and unaccounted uses.[3]	work day, and the number of work days. Coefficients used in the calculation, such as gallons per employee or visitor, must be identified and the Applicant shall reference the standard source for such data. Examples of standard data sources may be found at the U.S. Department of Energy, the AWWA Research Foundation, the Pacific Institute, the Conserve Florida on-line library and the EPA. B. Process requirements-water lost in processing and manufacturing where water is an input in the process. This quantity is determined through the calculation of a water balance. (See Figure 2-1) The water balance demonstrates where water is generated and in what quantities, where water is used in manufacturing or processing and the associated losses, and where and in what quantities water is disposed of or reused. The balance may be in the form of a spreadsheet or a flow diagram that indicates all water sources and losses. All sources of water that input to the activity must be listed. Sources may include, but are not limited to:	(d) Water used to separate or beneficiate the product. (e) Water used to transport the product (slurry). (f) Animal needs. (g) Draining or filling augmentation of ponds, pools, flumes and aquatic habitats. iv. Final disposal of all water must be identified including as applicable: (a) Off-site discharges. (b) Disposal/recharge through percolation ponds. (c) Disposal by spray irrigation. (d) Water entrained in clay materials. (e) Recycling of wastewater. b. <u>Office and personnel needs</u> (personal/sanitary use) – water for personal needs e.g. drinking, bathing, cooking, sanitation, cleaning spaces. Satisfied by providing information on the following: i. Average number of employees per shift, number of shifts per work day, and number of work days. Also estimated average number of visitors. ii. Develop coefficients for calculation – e.g. gallons per employee or visitor referencing standard data sources such as US Department of Energy, AWWA Research Foundation, Pacific Institute, Conserve

[3] SFWMD Handbook regarding Industrial/Commercial/Power Plants also includes a paragraph 3. <u>Pollution Remediation</u>, which provides that "An Industrial Water Use Permit is required for remediation projects that include groundwater or surface water withdrawals. The application for a pollution remediation use must include a copy of an approved state or federal remedial action plan. The volume of water to be withdrawn shall be consistent with the remedial action plan. The applicant must demonstrate that the treated water is discharged in a manner that is ultimately returned to the aquifer or is otherwise put to a reasonable-beneficial use, unless such discharge is technically or environmentally infeasible or is otherwise not practicable. Technical infeasibility exists if there is no reasonable access or capacity of permeable surface upon which the aquifer recharge could take place. Environmental infeasibility exists when there is no reasonable way of providing compatible quality discharge water to the receiving water, consistent with primary State Water Quality standards."

			1. Ground-water from wells. 2. Ground-water from water table dewatering or drainage. 3. Surface water withdrawals. 4. Collected rainfall. 5. Recycled or reused water. The uses of these water inputs are quantified, and the amount used and lost during each stage of the activity is calculated. All uses and losses must be listed. Uses and losses may include, but are not limited to: 1. Water used to wash the product. 2. Evaporation from settling/recirculation ponds. 3. Water retained and shipped with the product (product moisture). 4. Water used to separate or beneficiate the product. 5. Water used to transport the product (slurry). 6. Animal Needs 7. The scheduled draining, filling and augmentation of ponds, pools, flumes and aquatic habitats. The final disposal of all water then must be identified. Disposals may include, but are not limited to: 1. Off-site discharges. 2. Disposal/ recharge through percolation ponds. 3. Disposal by spray irrigation. 4. Water entrained in clay	Florida on-line library, or EPA. c. Landscaping and irrigation needs – determined by application of supplemental irrigation need formulas shown in agricultural demand demonstration section for plants proposed to be irrigated. d. Other needs – outside use, air conditioning, fire-fighting, water lost through leaks, and unaccounted uses.

			materials. 5. Recycling of wastewater. The amount of water sources used should equal the sum of the water used, lost and disposed. C. Animal use – water for the watering and washing of animals. This use may also include the augmentation and other water requirements of aquatic habitats, where applicable. If the water needs of a particular or comparable type of animal are not addressed in Table 2-2, the Applicant may submit documented requirements. D. Water-based recreation use – water used for public or private swimming and wading pools, including water flumes and slides. Calculations should take into consideration filling and draining schedules, water change, showers, and other specific requirements. E. Other uses-determined by calculating the total withdrawal quantity minus the quantity for the uses identified above. Other uses may include lawn and landscape irrigation, outside use, air conditioning and cooling, fire-fighting, water lost through leaks, and unaccounted uses. Other uses should generally not exceed 15% of total withdrawals. Applicants with other uses in excess of 15% may be required to address the reduction of such use through identification of specific uses or the reduction of system losses.	

Mining/ Dewatering	2.2.4 The reasonable need for a requested allocation must be based on the amount of water needed to economically and effectively extract subsurface materials or control surface water or groundwater when performing activities such as excavation or construction. For example, in some cases, dewatering may involve lowering the water table several feet in order to lower the level below "caprock" which is used as an operating floor and drying surface. In other cases, it may involve completely dewatering a pit in order to remove minable rock and sand using pans and scrapers. The reasonable allocation may vary for a particular dewatering operation depending upon the excavation method. Thus, if staff cannot recommend total dewatering of a mining pit because of adverse impacts, then staff shall recommend an alternative, such as drag-lining (which has a smaller water use and a smaller discharge), if	2.3.2 B. Dewatering Dewatering activities that require a water use permit include withdrawals of water for construction activities, mining operations, and minor uses such as exploratory testing, short-term Remedial Action Plans, and APTs. There are three types of District permits for dewatering projects that are primarily based on the duration and volume of water associated with the project. As summarized in Table 2-3, one permit is for short duration dewatering projects and the others are for long-term projects. The dewatering duration for a project is considered by Staff to be the period of time necessary to complete all dewatering for the project. An applicant is not eligible for multiple general permits by rule for a single project or different phases of a project. 1. General Permit by Rule for Short-Term Dewatering Permits Criteria for general permits by rule for short-term dewatering are found in Subsection 40E-2.061(2), F.A.C. 2. Dewatering Individual Permits Dewatering individual permits apply to	2.4.6 Applicants must demonstrate that the quantities applied for relate to reasonable mining, processing, and dewatering needs. Needs are generally demonstrated by providing information on the water balance for the operation, including all sources and losses of water utilized in the mining and/or dewatering process, the personal/ sanitary needs of employees and customers, the type and amount of lawn and landscape to be irrigated, the schedule of irrigation, the type of irrigation system to be used, and other specific uses. The water balance should also account for changes in water needs caused by variability in the ore body, production schedules and market conditions. Applicants who have obtained and are in compliance with a National Pollutant Discharge Elimination System (NPDES) or Environmental Resource Permit for dewatering shall be found to not cause harmful water quality impacts from dewatering discharge to receiving waters. Applicants for mining and dewatering uses must identify the demand for each of the following components: A. Personal/ sanitary use - water for personal needs such as drinking, bathing, cooking, sanitation, or cleaning spaces. For offices and work areas, the calculation should take	Dewatering and mining authorized by various types of CUPs depending upon the nature and complexity of the activity. 1. Smaller activities involving dewatering only - **General Permit by Rule for Short-Term Dewatering** (e.g. well pointing, utility construction, lake construction, exploratory testing, and other minor uses; aquifer performance tests; or in conjunction with a short-term Remedial Action Plan approved by the state or local agency having legal jurisdiction over such activities) a. Criteria: i. Have a maximum pumpage of less than 5 MGD and a maximum total project pumpage of less than 100 MG over a one year period. ii. Retain all discharge on the project site unless associated with an aquifer performance test. iii. Not dewater to a depth below 0.0 feet NGVD (or equivalent NAVD) within 1,000 feet of saline water, except when dewatering water with a chloride concentration of greater than 1,000 milligrams per liter. iv. Not occur within 100 feet of a wastewater treatment plant rapid-rate land application system permitted under Part IV of Chapter 62-610, F.A.C. v. Not occur within 1,000 feet of a known landfill or contamination. vi. Not occur within 1,000 feet of a freshwater wetland unless dewatering activities are completed within 60 days. vii. The dewatering operation is subject to the standard CUP conditions including responsibility for mitigating any harm that may occur as a result of the dewatering to existing legal uses, off-site land uses, or natural resources. viii. Linear projects, such as roads, utilities, or

	that extraction method satisfies all other criteria listed in Section 1.3.6 or 1.3.7. If all criteria listed in Section 1.3.6 or 1.3.7 are satisfied, the allocation is equal to the reasonable need for water. The reasonable need for water is the greatest volume which staff can recommend.	projects that exceed the thresholds and criteria described in Subsection 40E-2.061(2), F.A.C. Two types of individual dewatering permits are available from the District. For projects where all the dewatering activities are defined at the time of the permit application, the applicant may apply for a Standard Individual Permit. For long-term, multi-phased projects, with undefined activities or no contractor at the time of the permit application, the applicant may apply for a Master Individual Permit. Applicants for all individual dewatering permits must satisfy the conditions of issuance (Rule 40E-2.301, F.A.C.). In order to provide reasonable assurances that water reserved in Rule 40E-10.041, F.A.C., will not be withdrawn, all water from the dewatering activity shall be retained onsite. If the applicant demonstrates that retaining the water onsite is not feasible, the project shall be modified to demonstrate, pursuant to Subsection 3.11, that reserved water will not be withdrawn. The applicant may elect to begin dewatering for a single period of only 90 days in areas of the project, that meet the general permit by rule criteria	into consideration: the average number of visitors and employees per shift, the number of shifts per work day, and the number of work days. Coefficients used in the calculation, such as gallons per employee or visitor, must be identified and the Applicant shall reference standard source for such data. Examples of standard data sources may include but are not limited to standard data sources found at the U.S. Department of Energy, the AWWA Research Foundation, the Pacific Institute, Conserve Florida, and the U.S. EPA. B. Process requirements-water lost in the actual mining, processing, and dewatering processes. This quantity is determined through the creation of a water balance. (See Figure 2-2) The water balance demonstrates where water is generated and in what quantities, where water is used in mining and the associated losses, and where and in what quantities water is disposed of or reused. If processing of materials is associated with the mining or dewatering, a water balance diagram combining these activities is preferred (to separate water balances for each activity). The balance may be in the form of a spreadsheet or a flow diagram that indicates all water sources and losses. All sources of water that input to the activity must be accounted for. Sources	pipelines, may qualify for multiple general permits by rule. The dewatering activity for these projects may have a rolling one-year duration, in which the dewatering operation at the end of each one year period occurs no more than one mile from the location at the beginning of each one year period. 2. Larger dewatering activities that may also include non-dewatering mining use - a. **Standard individual CUP** (for mining or non-mining dewatering where all dewatering activities are defined at the time of permit application). Subject to all conditions of issuance. i. Demand criteria items (as applicable): 1. Process requirement – water used in mining, processing and dewatering (a) Determined through water balance in spreadsheet or flow diagram demonstrating: i. Where is water generated and in what quantities. ii. Where water is used in mining and the associated losses. iii. Where and in what quantities water is dispose of or reused. iv. Amount of water withdrawn should equal sum of system losses and disposals. (b) Water sources must be accounted: i. Groundwater from wells. ii. Groundwater from water table dewatering or discharge. iii. Surface water withdrawals. iv. Collected rainwater.

		specified in Subsection 40E-2.061(2), F.A.C., once an application for an individual dewatering permit has been submitted to the District. The applicant must provide the information required in paragraphs a. through i. below, as applicable. If required, the applicant shall provide estimates of the maximum monthly and annual dewatering withdrawals for the project and shall be required to submit records of monthly withdrawals for each dewatering pump to the District. Staff shall not specify maximum monthly or annual withdrawal volumes in the recommended permit conditions. Permit applications for a dewatering permit must: a. Provide reasonable assurances that the project will not cause harm to the resource, existing legal uses, offsite land uses, and wetland environments or cause harmful saline water intrusion or movement of pollutants, as described in Chapter 3 of this Applicant's Handbook. If the potential for harm exists, the applicant shall redesign the dewatering activities, including recharge trenches or storage areas to offset the potential drawdown impacts of the proposed activity; b. Demonstrate that the	may include, but are not limited to: 1. Groundwater from wells. 2. Groundwater from water table dewatering or drainage. 3. Surface water withdrawals. 4. Collected rainfall. 5. Recycled or reused water. The uses of these water inputs are quantified, and the amount used and lost during each stage of the activity is calculated. All uses and losses must be listed. Uses and losses may include, but are not limited to: 1. Water used to wash the product. 2. Evaporation from settling/recirculation ponds. 3. Water retained and shipped with the product (product moisture). 4. Water used to separate or beneficiate the product. 5. Water used to transport the product (slurry). The final disposal of all water then must be identified. Disposals may include, but are not limited to: 1. Off-site discharges. 2. Disposal/ recharge through percolation ponds. 3. Disposal by spray irrigation. 4. Water entrained in clay materials. 5. Recycling of wastewater. The amount of water withdrawn should equal the sum of the	v. Recycled or reused water. (c) Uses and losses accounted: i. Water used to wash product. ii. Evaporation from settling/recirculation. iii. Water retained and shipped with product (product moisture). iv. Water used to separate or beneficiate the product. v. Water used to transport the product (slurry). (d) Final disposal of all water identified: i. Off-site discharge. ii. Disposal/recharge through percolation ponds. iii. Disposal by spray irrigation. iv. Water entrained in clay materials. v. Recycling of wastewater. 2. Personal/sanitary use – water needs for personal use (e.g. drinking, bathing, cooking, sanitation, cleaning spaces, etc.). Determined by calculation considering: (a) Average number of visitors and employees per shift. (b) Number of work shifts per day. (c) Coefficients such as gallons per employee or visitor referencing data obtained from US Dept. of Energy, AWWA Research Foundation, Pacific Institute, Conserve Florida, or US EPA. 3. Other uses – e.g. lawn landscape

		requested allocations represent reasonable dewatering needs. These needs are generally demonstrated by providing information on the water budget for the operation, including all sources and losses of water utilized in the dewatering process. The water budget should demonstrate where and in what quantities water is generated to accomplish the dewatering, including any associated losses, and where and in what quantity water is stored, recharged, disposed, or reused. If processing of materials is associated with the dewatering, a separate water budget describing these activities is required. The water budget may be in the form of a spreadsheet or a flow diagram that indicates all water sources and losses; c. Identify the areal extent and depth of the proposed excavation, the depth of dewatering, and the areal extent of the drawdown of the Water Table aquifer associated with the proposed dewatering; d. Provide reasonable assurances that all dewatering water will be retained on the project site, unless the applicant demonstrates that it is not technically feasible to retain the dewatering water onsite. If any offsite discharge is requested due to	system losses and disposals. C. Other uses-determined by calculating the total withdrawal quantity minus the quantity for the uses identified above. Other uses may include lawn and landscape irrigation, outside use, air conditioning and cooling, fire-fighting, water lost through leaks, and unaccounted uses. Other uses should generally not exceed 15% of total withdrawals. Applicants with other uses in excess of 15% may be required to address the reduction of such use through identification of specific uses or the reduction of system losses.	irrigation, outside use, air conditioning and cooling, fire-fighting, water lost through leaks, and unaccounted for uses. Irrigation requirements determined by using supplemental irrigation methods in agriculture section handbook. b. Long-term multi-phased dewatering and mining projects with undefined activities or no identified contractor at the time of permit application. – **Master Individual CUP**. i. All demand demonstration criteria the same as for an individual standard CUP. ii. After permit approval, the permittee will be required by permit condition to supply site-specific dewatering plans for each proposed dewatering activity to the WMD for review and approval as least two weeks prior to dewatering. Permittee shall not initiate dewatering prior to receiving written authorization from WMD staff that the proposed dewatering activity is consistent with master CUP.

		demonstrated technical infeasibility of onsite retention, the applicant must provide the following information with the permit application: i. Documentation of authorization that allows the applicant to discharge directly into the receiving water body and/or adjacent lands (e.g., NPDES or ERP permit), and a demonstration that the receiving water body or adjacent lands are capable of accepting the dewatering discharge; ii. An operational plan which demonstrates that the discharge to the receiving water body will meet all applicable State Water Quality standards prior to discharge; iii. An operational plan which demonstrates that the discharge to protected wetlands will not contain turbidity levels in violation of State Water Quality standards (must be less than 29 NTU above background levels) prior to discharge; iv. A monitoring plan which includes, at a minimum, proposed sampling locations and daily turbidity measurements of the discharge and background conditions in the receiving body and/or wetland; and v. A contingency plan which includes procedures for		

		ceasing dewatering operations and correcting the situation until monitoring demonstrates water quality standards are met. e. Demonstrate that reserved water will not be withdrawn pursuant to paragraph 40E-20.301(1)(k), F.A.C., by retaining all water onsite; f. Provide reasonable assurances that fresh dewatering water will not be discharged to saline tidal waters, unless the applicant demonstrates that it is not technically feasible to prevent discharge to saline water and requests specific authority from the District for discharge. Saline dewatering water, as defined in this Applicant's Handbook, may be discharged to tidewater; g. Provide an operational plan which describes how stormwater will be handled during dewatering operations; h. For Standard Individual Permits, the applicant shall specify all proposed dewatering activities for the project in terms of depth, duration, and areal extent of dewatering and proposed routing of dewatering water, the estimated magnitude and extent of drawdown, proposed recharge/storage areas, and the potential for harm. The		

		applicant may proceed with all dewatering activities once the permit has been approved. i. For Master Individual Permits, due to project uncertainties, the applicant may not be able to specify all aspects of the proposed dewatering activities at the time of the permit application. In order to receive a master dewatering permit, the applicant must meet all conditions of issuance and specify the depth, duration, and areal extent of dewatering, the proposed routing of dewatering water, the estimated magnitude and extent of drawdown, proposed recharge/storage areas, and the potential for harm for "typical" dewatering activities for the project. In addition, the applicant shall provide an estimated project schedule showing dewatering activities and calculated estimated maximum monthly and annual dewatering withdrawals. After approval of the permit, the applicant shall be required by permit condition to supply site-specific dewatering plans for each proposed dewatering activity to the District for review and approval at least two weeks prior to dewatering. The applicant may not initiate dewatering prior to receiving written notification from District Staff, that the		

		proposed dewatering activity is consistent with the approved "master" permit. Individual de-watering applications will be reviewed concurrently with ERP or SWM construction permit applications, and the dewatering application will not be considered complete until both applications are complete. An applicant may request that the dewatering permit include a later "start" date to coincide with the actual start of dewatering activities at the project. Staff will recommend a permit expiration date, based on the proposed "start" date. Any temporary dewatering water holding areas must be constructed and operated using sound engineering practices to protect public health, safety, and welfare and, as necessary, dewatering activities must meet all applicable ERP or SWM criteria.		