

PRIOR-PERMIT STORMWATER DESIGN BASIS

Carli Professional Office Building

Seminole County, Florida · permit 123954-1 · issued 2010-06-15 · ERP Stormwater Standard General (40C)

PERMIT ACTION / SEQUENCE REVIEWED

P01	123954-1	Original authorization · issued 15 Jun 2010 · primary prior-design basis
P01-D01	Drainage calculations · 17 Mar 2010	P01-D02 Permit · 15 Jun 2010
P01-D03	Technical Staff Report · 9 Jun 2010	P01-D04 SJRWMD permit index · sequence 1 · queried 24 Jul 2026

Each source is linked here and cited by source/page throughout. Candidate records found by spatial intersection are not treated as applicable until their relationship to the subject system is established.

ENGINEERING SUMMARY

The reviewed permit action documents a dry-retention system and a historical stormwater design baseline for discharge to Crystal Lake. It supports reconstruction of the permitted design; it does not establish present-day capacity or current site conditions. Authorization, constructed geometry, common datum, groundwater, and downstream conditions remain to be confirmed.

Key engineering findings

- Permit lineage.** P01 is the analyzed 2010 permit action and primary prior-design basis. The district index lists sequence 1 as Compliance [P01-D04](#); current site relationship and authorization remain to be confirmed.
- Existing system.** The sources describe a dry-retention pond, control weir, 15-in RCP, right-of-way drainage, and discharge toward Crystal Lake [P01-D01, p.2](#) · [P01-D03, p.2](#).
- Historical model baseline.** The 55.57-hour recovery result and the recorded discharge/stage pairs are model-reconstruction benchmarks, not evidence of available capacity [P01-D01, p.12](#).
- Elevation relationships.** The recorded 100-year stage is 1.52 ft below the berm, and the pond bottom is 1.00 ft above recorded SHGWT. A common vertical datum was not resolved [P01-D01, p.12](#) · [P01-D01, p.35](#).

EXISTING SYSTEM DOCUMENTED IN THE RECORD

Site drainage → inlets and piping → dry retention pond → control structure → 15-in RCP → right-of-way drainage/swale → Crystal Lake.
[P01-D01, p.2](#) · [P01-D03, p.2](#)

Prepared from public regulatory records. Calculated differences are arithmetic over cited inputs. This brief is record research, not a survey, regulatory determination, engineering design, or sealed work.

01 • RECORDED DESIGN CRITERIA

Recorded stormwater design basis

Record values and calculated differences are grouped by engineering function. References correspond to the linked source index on page 1 and the full register on page 4.

Water quality and recovery

PARAMETER	RECORDED CRITERION	RECORDED RESULT	CALCULATED DIFFERENCE	SOURCE
Water-quality volume	0.042 ac-ft required	0.043 ac-ft provided	0.001 ac-ft	P01-D01, p.5 P01-D01, p.12
Treatment recovery	≤ 72 hours	55.57 hours	16.43 hours below maximum (22.8%)	P01-D01, p.12

Engineering interpretation. Provided volume is essentially equal to the recorded requirement at the precision reported; this comparison does not establish available capacity. The recovery result is historical model performance and remains dependent on soils, groundwater, and constructed pond geometry.

Discharge and stage results

EVENT	PRE CFS	POST CFS	MODELED REDUCTION	PEAK STAGE	SOURCE
Mean annual / 24-hour	0.503	0.372	0.131 cfs (26.0%)	El. 50.74 ft	P01-D01, p.12 P01-D01, p.12
25-year / 24-hour	1.547	1.490	0.057 cfs (3.7%)	El. 51.10 ft	P01-D01, p.12 P01-D01, p.12
100-year / 24-hour	2.132	1.994	0.138 cfs (6.5%)	El. 51.23 ft	P01-D01, p.12 P01-D01, p.12

Engineering interpretation. The 25-year / 24-hour pair has the smallest modeled reduction. All three pairs and peak stages are historical model-reconstruction benchmarks, not current discharge allowances or approval criteria.

Recorded hydraulic assumptions

PARAMETER	RECORD VALUE	RECORD NOTE	SOURCE
Seasonal high groundwater	Elev. 48.75 ft	Vertical datum not resolved in the reviewed material.	P01-D01, p.35
Tailwater	Elev. 50.00 ft	Right-of-way piping system modeled as flowing full.	P01-D01, p.2
Control crest	Elev. 50.50 ft	Recorded control-structure elevation.	P01-D01, p.11

02 • PERMITTED SYSTEM

Permitted drainage system and elevation relationships

The drainage path and components below are documented in permit action P01. Current location, condition, and elevations have not been established by this review.



System components

FACILITY	RECORD DESCRIPTION	CONFIRMATION NEEDED	SOURCE
Drainage inlets and piping	Onsite drainage inlets and underground piping conveying sheet-flow runoff to the retention pond	Confirm location, inverts, and condition.	P01-D01, p.2
Dry retention pond	Dry retention pond, bottom elevation 49.75 ft, bottom area 2,490 sq ft; stores 0.043 ac-ft at weir crest 50.50 and 0.172 ac-ft at elevation 52.75	Survey bottom, berm, and storage geometry.	P01-D01, p.35
Control structure weir	Rectangular overflow weir in the drainage control structure; 12-inch weir length, crest/control elevation 50.50 ft	Survey crest, opening, and condition.	P01-D01, p.11
Outfall pipe	15-inch circular (RCP) outfall pipe from the pond control structure, 40 ft long; upstream invert 48.75 ft, downstream invert 48.55 ft	Confirm inverts, connection, and condition.	P01-D01, p.29
Swale	Offsite open swale downstream of the right-of-way piping system, draining to Crystal Lake	Confirm grades, ownership, maintenance, and tailwater response.	P01-D01, p.2

Elevation relationships

FEATURE	RECORD ELEVATION	RELATIONSHIP IN THE REVIEWED RECORD	SOURCE
Seasonal high groundwater	48.75 ft	Groundwater basis used by the record.	P01-D01, p.35
Pond bottom	49.75 ft	1.00 ft above recorded SHGWT (calculated).	P01-D01, p.35
Tailwater	50.00 ft	Downstream model assumption.	P01-D01, p.2
Control crest	50.50 ft	Recorded control elevation.	P01-D01, p.11
100-year / 24-hour peak stage	51.23 ft	Highest modeled stage in the reviewed record.	P01-D01, p.12
Pond berm	52.75 ft	1.52 ft above the highest modeled stage (calculated).	P01-D01, p.12

Datum note. A common vertical datum was not resolved from the reviewed material. The relationships above are shown as recorded and require reconciliation with current survey before reliance.

03 · ASSESSMENT AND FOLLOW-UP

Engineering assessment and required confirmations

Record-supported conclusions

01	Permit lineage.	P01 is the analyzed prior permit action and primary design-basis source set. The district index lists sequence 1 as Compliance P01-D04; current site relationship, authorization, and O&M responsibility remain to be confirmed.
02	Existing system.	The cited sources document the drainage path and principal facilities from site collection through Crystal Lake P01-D01, p.2 · P01-D03, p.2. They do not establish present condition or ownership.
03	Historical model baseline.	Recorded treatment, recovery, discharge, and stage results form a model-reconstruction baseline; they do not establish present performance or available capacity P01-D01, p.12.
04	Current conditions.	Constructed geometry, common datum, groundwater, and downstream boundary conditions remain unresolved. Recorded elevation relationships require reconciliation with current survey P01-D01, p.35.

Required confirmations

OPEN ITEM	WHY IT MATTERS	RESOLUTION
Site relationship, authorization, and O&M	The district index lists sequence 1 as Compliance P01-D04; issued 15 Jun 2010 P01-D02, p.1; five-year construction term P01-D02, p.3; two-year inspection interval P01-D02, p.5. Current authorization and O&M responsibility remain unresolved.	Confirm site/permit relationship, current agency file, O&M entity, and modification path.
As-built geometry and datum	Storage, freeboard, and control relationships depend on constructed elevations.	Obtain the completion/as-built record and reconcile it to a current datum-tied survey.
Soils, SHGWT, and recovery	Recovery performance depends on infiltration and groundwater conditions.	Confirm current geotechnical and groundwater inputs before rerunning recovery.
Outfall and tailwater	The record assumes a full right-of-way pipe and Elev. 50.00 ft tailwater.	Inspect the receiving system and establish the current downstream boundary condition.
Baseline model reconstruction	The historical results are the only documented quantitative performance baseline.	Reproduce treatment, recovery, discharge pairs, and stages before evaluating changes.

Full source register

P01	123954-1	Original authorization · 15 Jun 2010 · primary prior-design basis
P01-D01	Drainage calculations · 17 Mar 2010	
P01-D02	Permit · 15 Jun 2010	
P01-D03	Technical Staff Report · 9 Jun 2010	
P01-D04	SJRWMD permit index · sequence 1 · queried 24 Jul 2026	

Basis and limitations. An analyst selected permit action P01 and reviewed the cited sources. Spatially intersecting records were excluded unless their relationship to the subject system was established. Calculated differences are arithmetic over cited inputs. This is not a title opinion, survey, regulatory determination, engineering design, or sealed work; the source file controls.