



**DRAINAGE STATEMENT**

**FOR**

CHIT CHAT DINER  
410 EAGLE ROCK AVENUE  
TOWNSHIP OF WEST ORANGE  
ESSEX COUNTY, NEW JERSEY

**SUBMITTED TO:**

WEST ORANGE PLANNING BOARD

**PREPARED BY:**

PETRY ENGINEERING, LLC  
155 PASSAIC AVENUE  
FAIRFIELD, NEW JERSEY 07004  
973-227-7004

*J. Michael Petry*

---

**J. MICHAEL PETRY, PE**  
**NJ PROFESSIONAL ENGINEER # 36662**  
**JANUARY 24, 2025**

**PROJECT: #24-085**

155 Passaic Avenue, Suite 350, Fairfield, New Jersey 07004  
973-227-7004 963-227-7074 (fax)  
[www.petryengineering.com](http://www.petryengineering.com)

## **EXISTING CONDITIONS**

The property in question is located on Block 109, Lot 1.01 and Block 111, Lot 1.05 per the Township of West Orange Tax Map. The property is further identified as Chit Chat Diner and is located on the southerly side of Eagle Rock Avenue.

The property is comprised of two irregularly shaped lots and has an area of approximately 192,631 square feet (4.42 acres). The site generally slopes from east to west with stormwater runoff flowing from the rear south-westerly portion of the property to the front of the property towards Eagle Rock Avenue. The property is developed with a two-story stone building, paver walkway, outdoor seating and paved parking area. The existing impervious coverage of the subject site is 50,932 square feet (1.17 acres).

Stormwater currently flows into a subsurface detention basin located at the rear parking area and into a subsurface detention basin located on the easterly parking area. Both systems ultimately flow into the county drainage system along Eagle Rock Avenue.

## **SOILS INVESTIGATION**

Prior to the stormwater management design, a soils investigation was performed to determine the soil's permeability as well as to locate potential groundwater and bedrock. Three (3) test pits were performed in the desired parking expansion area and the test results provided a soil permeability rate of 0.2 to 0.6 inch per hour. Additionally, bedrock was observed in all the test pits between 4'-0" and 5'-6" below the surface. With the bedrock established relatively close to the surface and the clay material above the rock, the existing surfaces act as impervious in the un-built condition.

## **PROPOSED DEVELOPMENT**

The Applicant is proposing an expansion of the parking area for additional parking spaces to accommodate existing customers and to lessen the reliance on off-site employee parking.

The Applicant is proposing a net additional fifteen (15) physical parking spaces, of which four (4) will be EV-ready. With the EV credit applied, the total number of additional spaces proposed in relation to the zoning requirement is nineteen (19) spaces. Surrounding the proposed parking area will be block curb, a metal fence and a timber guide rail that matches the existing. The proposed parking area will include twelve (12) new plantings within the proposed islands and around the parking area to meet West Orange Tree Ordinance. It shall be noted that the circulation for the proposed parking area will be one way with the appropriate signage provided. Additionally, the parking area will be illuminated with the proposed fixtures similar to those recently installed as shown on the plans.



The total amount of disturbance on these lots for all the proposed work is 19,100 square feet (0.438 acres). The proposed improvements consist of 8,244 (0.189 acres) square feet of impervious coverage. Because of the increase in impervious coverage on site, two (2) type 'B' inlets will be constructed within the expanded parking area. These inlets will connect to two (2) manholes via 12" HDPE pipes which will tie into the existing type 'B' inlet on site.

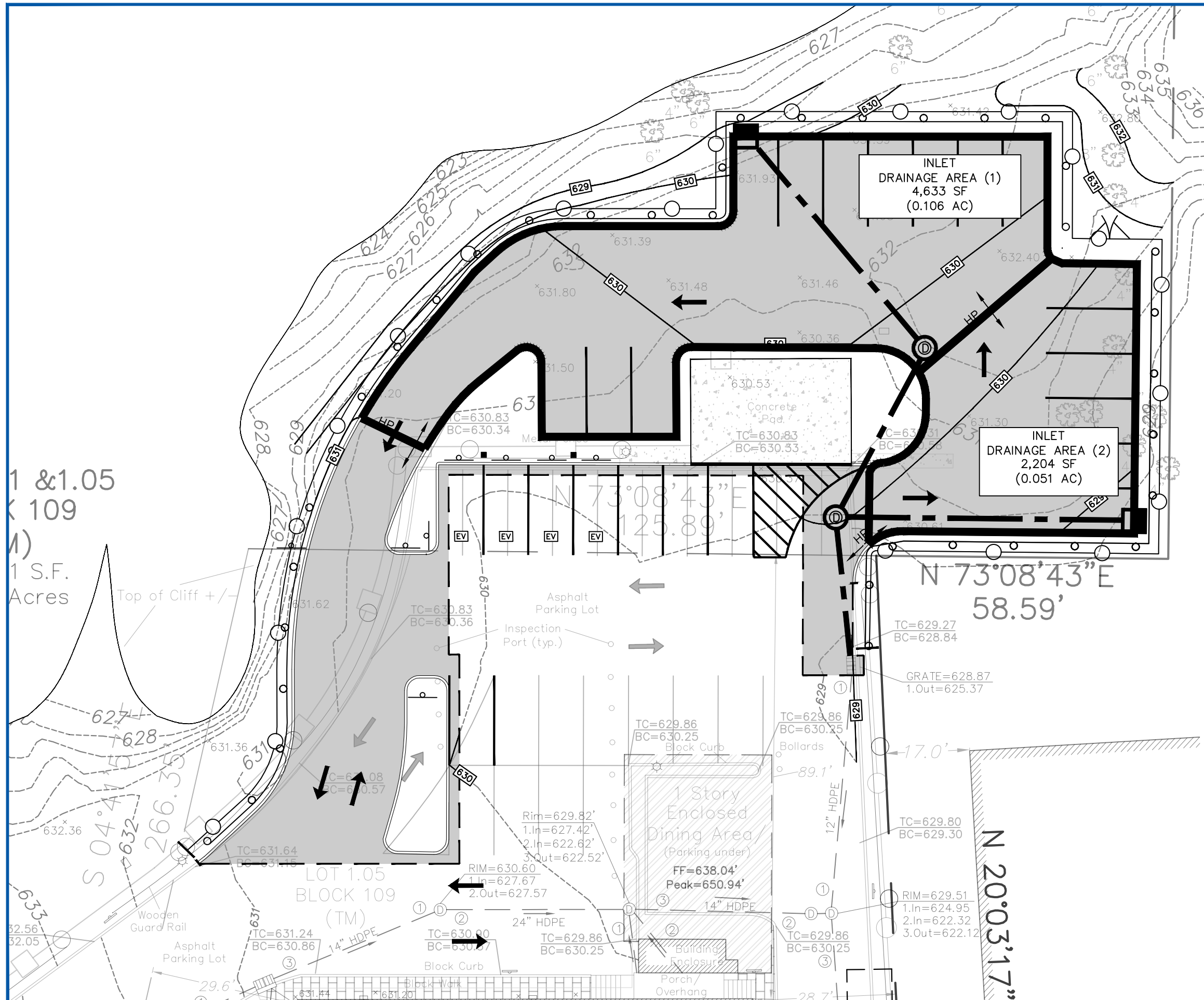
## **STORMWATER MANAGEMENT**

Both the limit of disturbance (0.438 acres) and the new motor vehicle surface area (0.189 acres) are below the major development thresholds. No detention is provided since the shallow bedrock and clay material already represent an impervious condition. To account for the additional impervious coverage, the Applicant is proposing to install inlets and manholes to connect into the existing stormwater management system on site. This added pipe network will capture the stormwater runoff within the expanded parking area and direct it towards the existing storm sewer system located within the developed portion of the property.

## **CONCLUSION**

To summarize, the improvements have been designed to provide additional parking stalls on the subject property. It is especially important to note that the proposed development will not have a negative impact on the neighboring properties as the stormwater runoff from the expansion will be captured by the proposed inlets and manholes and connect into the existing system in the parking lot. As such, there will be slight reduction in runoff that currently discharges to the steep slopes.





|     |             |      |
|-----|-------------|------|
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |
| REV | DESCRIPTION | DATE |



CHECKED BY: SPD

DRAFTED BY: LCD



PREPARED FOR  
**CHIT CHAT DINER**  
410 EAGLE ROCK AVENUE  
LOT 1.01, BLOCK 109  
LOT 1.05, BLOCK 111  
TOWNSHIP OF WEST ORANGE  
ESSEX COUNTY, NEW JERSEY

TITLE:

INLET DRAINAGE  
AREA MAP

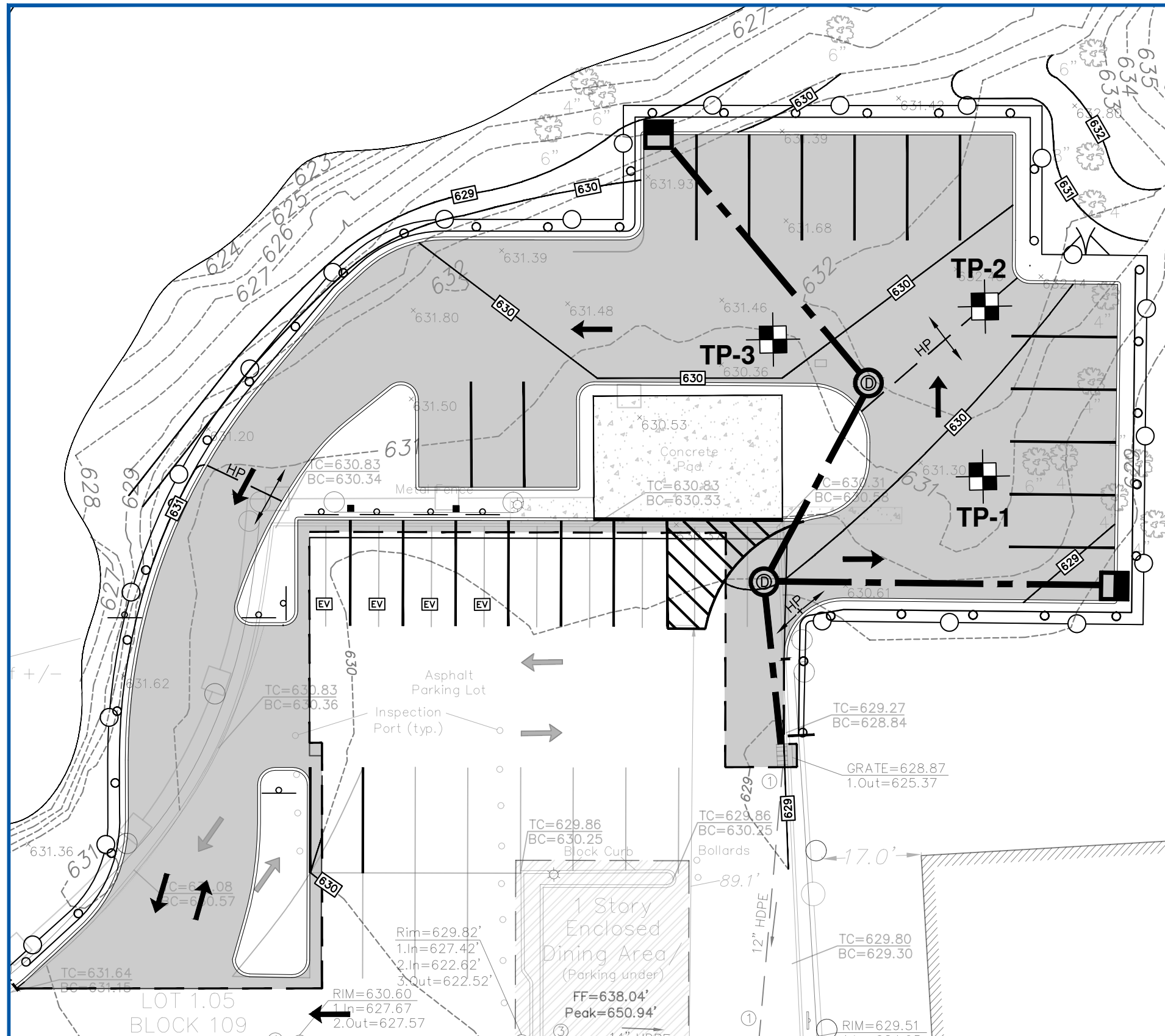
PROJECT #:  
24-085

SHEET:  
FIG-1

**STORM SEWER COMPUTATIONS**  
**RATIONAL METHOD - (Q=CIA)**  
**25 YR. STORM**

Date: 01-24-25, Revised:  
By: LCD

| PIPE SEGMENT |           |               |                |                 |                |           |                          |                      |                       |           |                     |                       |                         |                       |      |
|--------------|-----------|---------------|----------------|-----------------|----------------|-----------|--------------------------|----------------------|-----------------------|-----------|---------------------|-----------------------|-------------------------|-----------------------|------|
| FROM         | TO        | A-Incremental | C-Runoff Coef. | AxC-Incremental | AxC Cumulative | Tc (MIN.) | I-Rainfall Int. (in./hr) | Qp-Peak Runoff (cfs) | Pipe/Box Length (FT.) | Slope (%) | Pipe/Box Size (IN.) | Capacity (FULL) (cfs) | Velocity (Design) (fps) | Pipe Travel Time(min) |      |
| Inlet #1-3   | MH #1-2   | 0.11          | 0.99           | 0.10            | 0.10           | 6.0       | 5.60                     | <b>0.59</b>          | 50                    | 1%        | 12" HDPE            | <b>3.87</b>           | 4.93                    | 0.17                  | GOOD |
| MH #1-2      | MH #1-1   | 0             | 0.99           | 0.00            | 0.10           | 6.0       | 5.60                     | <b>0.59</b>          | 34                    | 1%        | 12" HDPE            | <b>3.87</b>           | 4.93                    | 0.11                  | GOOD |
| Inlet #1-4   | MH #1-1   | 0.051         | 0.99           | 0.05            | 0.16           | 6.0       | 5.60                     | <b>0.87</b>          | 55                    | 1%        | 12" HDPE            | <b>3.87</b>           | 4.93                    | 0.19                  | GOOD |
| MH #1-1      | EX. INLET | 0             | 0.99           | 0.00            | 0.16           | 6.0       | 5.60                     | <b>0.87</b>          | 25                    | 1%        | 12" HDPE            | <b>3.87</b>           | 4.93                    | 0.08                  | GOOD |



### SOIL TESTING RESULTS

SOIL TESTING WAS PERFORMED ON JANUARY 8, 2025 BY JOHNSON SOILS COMPANY.

#### TEST PIT #1 (TP-1) – ELEVATION: 631±

0'-0" – 0'-4" TOPSOIL / GRASS  
0'-4" – 4'-0" BROWN CLAYEY SOIL

NO GROUNDWATER OBSERVED  
BEDROCK OBSERVED AT 4'-0"  
SAMPLE COLLECTED AT 4'-0"

THE SOIL PERMEABILITY RATING IS K-1 (0.2 TO 0.6 IN/HR).

#### TEST PIT #2 (TP-2) – ELEVATION: 632±

0'-0" – 0'-4" TOPSOIL / GRASS  
0'-4" – 5'-6" DARK BROWN CLAYEY SOIL

NO GROUNDWATER OBSERVED  
BEDROCK OBSERVED AT 5'-6"  
SAMPLE COLLECTED AT 5'-6"

THE SOIL PERMEABILITY RATING IS K-1 (0.2 TO 0.6 IN/HR).

#### TEST PIT #3 (TP-3) – ELEVATION: 631±

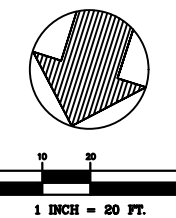
0'-0" – 0'-4" TOPSOIL / GRASS  
0'-4" – 4'-0" DARK BROWN CLAYEY SOIL

NO GROUNDWATER OBSERVED  
BEDROCK OBSERVED AT 4'-0"  
SAMPLE COLLECTED AT 4'-0"

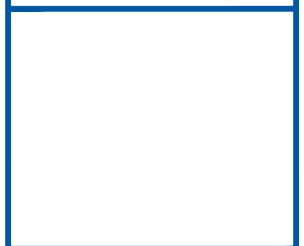
THE SOIL PERMEABILITY RATING IS K-1 (0.2 TO 0.6 IN/HR).



| REV | DESCRIPTION | DATE |
|-----|-------------|------|
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |



CHECKED BY: SPD  
DRAFTED BY: LCD



PREPARED FOR  
**CHIT CHAT DINER**  
410 EAGLE ROCK AVENUE  
LOT 1.01, BLOCK 109  
LOT 1.05, BLOCK 111  
TOWNSHIP OF WEST ORANGE  
ESSEX COUNTY, NEW JERSEY

TITLE:  
**TEST PIT LOCATIONS  
AND SOIL  
PERMEABILITY MAP**

PROJECT #: 24-085  
SHEET: FIG-2