



A Civil Engineering Firm  
Tel: (786)302-7693 • Email: wilford@zephyrengineeringfl.com

## **K. FIRE**

1. Fire review for TAC is limited to fire department access and minimum fire flow requirements for water supply for firefighting purposes. --- A complete architectural review will be completed during formal application of architectural plans to the building department.

**RESPONSE: Acknowledged.**

2. As per NFPA 1 (2018 Ed.) Section 18.2.3.2.1 --- A fire department access road shall extend to within 50 ft. (15 m) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. As these are townhomes separated by firewalls, then the front door to each townhome shall be considered within the distance measurements. --- Show this on the plans.

**RESPONSE: Please see fire department access dimensions on sheet C5.**

3. As per NFPA 1 (2018 Ed.) Section 18.2.3.2.1.1 --- Where a one- or two-family dwelling, or townhouse, is protected with an approved automatic sprinkler system that is installed in accordance with Section 13.3, the distance in 18.2.3.2.1 shall be permitted to be increased to 150 ft. (46 m). --- Show this on the plans.

**RESPONSE: Acknowledged.**

4. As per NFPA 1 (2018 Ed.) Section 18.2.3.5.4 (Dead Ends) --- Dead-end fire department access roads in excess of 150 ft. (46 m) in length shall be provided with approved provisions for the fire apparatus to turn around. --- Diagrams of acceptable methods attached.

**RESPONSE: Please see fire department access dimensions on sheet C5.**

5. When submitting plans, they must show fire department access roads along with the required turning radii. --- The minimum width for FD access roads is 20' unobstructed as per NFPA 1:18.2.3.5.1.1, per 18.2.3.5.1.2, fire department access roads shall have an unobstructed vertical clearance of not less than 13 ft. 6 in. (4.1 m) and per 18.2.3.5.3.1, the turning radius for fire truck access: 28'.5" interior radius, 38' centerline of the turning radius, and 45' exterior.

**RESPONSE: Please see fire department access dimensions on sheet C5.**

6. If a fire sprinkler system is to be installed, at time of submittal, water supply must meet NFPA 1 (2018 Ed.) Section 18.4.5.3. --- In order to determine the minimum fire flow for firefighting purposes, a hydrant flow test will need to be scheduled through our underground utilities dept., underground@hollywoodfl.org. --- After the results are completed, the civil engineer shall show on civil drawings the calculations using table 18.4.5.2.1 showing that the project meets the minimum fire flow requirements for the building.

As a result of that test, show any existing and new fire hydrants on civil drawings. A copy of the completed hydrant flow test and engineer's calculations are required at the next submittal.

**RESPONSE: Please see attached fire flow test.**

7. Water supply and any new hydrants shall be in place prior to accumulation of combustible materials per NFPA 1 (2018 Ed.) Section 16.4.3.1.1.

**RESPONSE: Please see note on sheet C6.**



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8. As per NFPA 1 (2018 Ed.) Section 12.3.2 --- In new buildings three stories or greater in height, a quality assurance program for the installation of devices and systems installed to protect penetration and joints shall be prepared and monitored by the RDP responsible for design. Inspections of firestop systems and fire-resistive joint systems shall be in accordance with 12.3.2.1 and 12.3.2.2. --- Inspections of fire stop systems and fire-resistive joint systems shall be in accordance with 12.3.2.1 and 12.3.2.1. --- Architectural plans will be required to show this information moving forward for buildings three stories or greater in height. Provide a note on the plan regarding NFPA 1 (2018 Ed.) Section 12.3.2.

**RESPONSE: Acknowledged.**



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January 1, 2024

**FIRE FLOW CALCULATIONS**  
**Lincoln Street Apartments**

2420 Lincoln Street  
Hollywood, FL 33020

These calculations are for a two-story building, with a total area of 16,974 SF.

**Fire Flow Area = 16,974 SF**

Per NFPA 18.4, Fire Flow Requirements, the required fire flow for Type II (222) construction for the above-referenced fire flow area is 1,500 GPM.

Per NFPA 18.4.5.3.2, a reduction in required fire flow of 75% shall be permitted when the building is protected throughout by an approved automatic sprinkler system. The resulting fire flow may not be less than 1000 gpm.

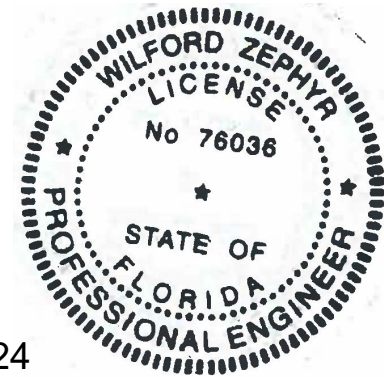
$(1,500 \text{ GPM}) \times 0.75 = 1,125 \text{ GPM}$  (fire flow credit for automatic sprinkler system)

$(1,500 \text{ GPM}) - (1,125 \text{ GPM}) = 375 \text{ GPM}$

Per NFPA 18.4.5.3.2, The resulting fire flow may not be less than 1,000 GPM

**Therefore, fire flow required=1,000 GPM**

Prepared by:



1-1-24

\_\_\_\_\_  
Wilford Zephyr, P.E., LEED AP, CFM

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February 8, 2023

# Drainage Calculations for 9 Unit Townhomes Hollywood, FL

## PEAK STAGES

STORM EVENT	PRE-DEVELOPMENT	POST-DEVELOPMENT
5 Year - 1 Hour	N/A	9.69' NAVD88
25 YEAR - 3 DAY	13.79' NAVD88	13.13' NAVD88
100 YEAR - 3 DAY	14.17' NAVD88	13.56' NAVD88

Prepared by:



Wilford Zephyr, P.E., LEED AP, CFM

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**Project Name:** 9 Unit Townhomes  
**Project Address:** 2420 Lincoln Street  
Hollywood, FL  
**ZE Project #: 23-04**

**Date:** 02/08/23  
**Designed by:**  
Wilford Zephyr, P.E.

**Post Development**

All Elevations are referenced to NAVD88 vertical datum

### Site Data

Project Area:	0.47 AC	
Pavement Area:	0.15 AC	
Building Area:	0.13 AC	
Grass Area (Pervious):	0.19 AC	
Lake Area:	0 AC	
Total Pervious Area:	0.19 AC	40.43%
Total Impervious Area:	0.28 AC	59.57%

### Design Parameters

Water Table Elevation:	1.50 ft
Exist. Crown of Road Elev.:	12.53
Average Finished Grades:	12.35 ft
Prop. Finished Floor Elev.:	14.05 ft

### C Factor

Pervious:	0.6
Impervious:	0.9

$$C \text{ Factor (weighted)} = \frac{0.19 (0.60) + 0.15 (.90)}{0.34} = 0.73$$

### Storm Event Information

3 year, 1 hour event:	2.5 inches (for retention/detention)
25 year, 24 hour event:	10.50 inches
25 year, 72 hour event:	14.27 inches (Finished Floor Elevation)
100 year, 24 hour event:	13 inches
100 year, 72 hour event:	17.67 inches (Finished Floor Elevation)

## Soil Storage (S) & Curve Number (CN)

All Elevations are referenced to NAVD88

### Cumulative Water Storage (CWS)

Design Water Table (WT) = 1.50 ft

Average Finished Grade = 12.35 ft

Average Depth to Water Table (DWT) = 10.85 ft

Cumulative Water Storage (CWS) = 8.18 IN

(from table below)

### Cumulative Soil Moisture Storage (flatwoods soil)

DWT	NAS	DAS
1.0'	0.60"	0.45"
2.0'	2.50"	1.88"
3.0'	5.40"	4.05"
4.0'	9.00"	6.75"

DWT=Depth to Water Table

NAS=Natural Available Storage

DAS=Developed Available Storage

### Soil Storage (S in inches)

$S = CWS \times (\text{percentage of total pervious area}) =$

2.73

### Curve Number (CN)

$CN = 1000 / (S + 10) =$  78.56

## Water Quality Retention/Detention & Pretreatment Calculations

- A. For a wet detention system, size system for highest of first inch of runoff over the entire site or 2.5" times the % impervious area
- B. For a dry detention system, size system for 75% of the volume required for a wet detention system.
- C. For a retention system, size system for 50% of the volume required for a wet detention system.

### **1/2" Pretreatment**

0.5" X 3.97 acres = 1.99 acre-inches (0.165 acre-ft)

### **1 IN Over Entire Site**

1" X 0.47 acres = 0.47 acre-inches (0.039 acre-ft)

### **2.5 INCHES Times Percent Impervious**

Total project area - roof area = 0.47 acres - 0.13 acres = 0.34 acres

0.34 acres - 0.19 acres (pervious area) = 0.15 acres

0.15 acres / 0.34 acres X 100% = 44.12% impervious

2.5" X 0.4412 = 1.103" to be treated

1.103" X 0.47 acres = 0.52 acre-inches (0.043 acre-feet)

**0.043 acre-ft of storage required for water quality.**

**Water quality storage provided in existing dry retention area and proposed exfiltration trench system.**

# Runoff (Q) & Runoff Volume (V) Calculations

All Elevations are referenced to NAVD88

$$Q = (P - 0.2S)^2 / (P + 0.8S) \qquad V = Q \times A \text{ (ft/ 12 in)}$$

Q = direct runoff (inches)

P = rainfall (inches)

S = soil storage (inches)

A = site area (acre)

V = Runoff Volume (ac-ft)

## Finished Floor Elevation

P<sub>1 day</sub> = 100 year, 24 hour event: 13 (inches)

P<sub>3 day</sub> = 100 year, 72 hour event: 17.67 (inches)

S = 2.73 (inches)

A = 0.47 (acre)

Q = 14.77 (inches)

V = 0.58 (ac-ft)

Corresponding Stage = 13.56 ft

**Set minimum finished floor elevation at 14.05' NAVD88.**

## Perimeter Control Elevation

P<sub>1 day</sub> = 25 year, 24 hour event: 10.5 (inches)

P<sub>3 day</sub> = 25 year, 72 hour event: 14.27 (inches)

S = 2.73 (inches) (see "Soil Storage" sheet

A = 0.47 (acre) for calculating "S")

Q = 11.45 (inches)

V = 0.45 (ac-ft)

**Corresponding Stage = 13.13 ft**



## Runoff (Q) & Runoff Volume (V) Calculations

All Elevations are referenced to NAVD88

$$Q = (P - 0.2S)^2 / (P + 0.8S)$$

$$V = Q \times A \text{ (ft/ 12 in)}$$

Q = direct runoff (inches)

P = rainfall (inches)

S = soil storage (inches)

A = site area (acre)

V = Runoff Volume (ac-ft)

### 5 Year - 1 Hour (Lowest Catch Basin Elevation)

P= 5 year, 1 hour event: 3.28 (inches)  
S= 2.73 (inches)  
A= 0.47 (acre)

Q = 1.37 (inches)

V = 0.05 (ac-ft)

Corresponding Stage = 9.69 ft

**Set minimum lowest catch basin at elevation at 11.50' NAVD88.**

**Stage Storage**

All Elevations are referenced to NAVD88

Total Surface Storage Area = 0.47 AC

(0.171 AC)  
(Lin. 11.50'-12.50')

(0.15 AC)  
(Lin. from 11.50'-13.15')

<b>Stage</b>	<b>Surface Storage (Landscape)</b>	<b>Surface Storage (Pavement)</b>	<b>Trench Storage</b>	<b>Total</b>
9.50 '	0.00 AC-FT	0.00 AC-FT	0.00 AC-FT	0.00 AC-FT
10.00 '	0.00 AC-FT	0.00 AC-FT	0.13 AC-FT	0.13 AC-FT
10.50 '	0.00 AC-FT	0.00 AC-FT	0.13 AC-FT	0.13 AC-FT
11.00 '	0.00 AC-FT	0.00 AC-FT	0.13 AC-FT	0.13 AC-FT
11.50 '	0.00 AC-FT	0.00 AC-FT	0.13 AC-FT	0.13 AC-FT
12.00 '	0.04 AC-FT	0.04 AC-FT	0.13 AC-FT	0.21 AC-FT
12.50 '	0.09 AC-FT	0.08 AC-FT	0.13 AC-FT	0.29 AC-FT
13.00 '	0.17 AC-FT	0.11 AC-FT	0.13 AC-FT	0.41 AC-FT
13.50 '	0.26 AC-FT	0.18 AC-FT	0.13 AC-FT	0.56 AC-FT
14.00 '	0.34 AC-FT	0.25 AC-FT	0.13 AC-FT	0.72 AC-FT

\*total landscape area=0.19 AC. 10% reduction applied (-0.019 AC) due to loss of stormwater storage from tree trunks.

## Exfiltration Trench Length Calculation

All elevations are referenced to NAVD88 vertical datum.

### Calculating H<sub>2</sub>

Design Water Table (WT) = 1.50 ft  
 Lowest Catch Basin Elevation = 11.50 ft  
 Bottom of Exfiltration Trench = 4.70 ft  
 Top of Exfiltration Trench = 9.70 ft

EL<sub>inv.</sub> = N/A

H<sub>2</sub> = 6.80 ft

### Calculating Exfiltration Trench Length

EL<sub>inv.</sub> = invert elevation of lowest weir/bleeder allowing discharge from trench

L<sub>R</sub> = length of trench required (ft)

L<sub>P</sub> = length of trench provided (ft)

V<sub>exft.</sub> = volume in exfiltration trench (ac-in)

FS = factor of safety

K = hydraulic conductivity (cfs/ft<sup>2</sup> - ft head)

H<sub>2</sub> = head on saturated surface (ft)

W = trench width (ft)

D<sub>U</sub> = unsaturated trench depth (ft)

D<sub>S</sub> = saturated trench depth

$$L_R = \frac{FS[(\%WQ)(V_{wq}) + V_{add}]}{K[H_2W + 2H_2D_U - D_U^2 + 2H_2D_S] + (1.39 \times 10^{-4})(WD_U)}$$

V<sub>wq</sub> = 0.52 (0.043 ac-ft)

V<sub>add</sub> = 1.02 (0.085 ac-ft)

%WQ = 0.5

FS = 2

K = 0.00015

H<sub>2</sub> = 6.8

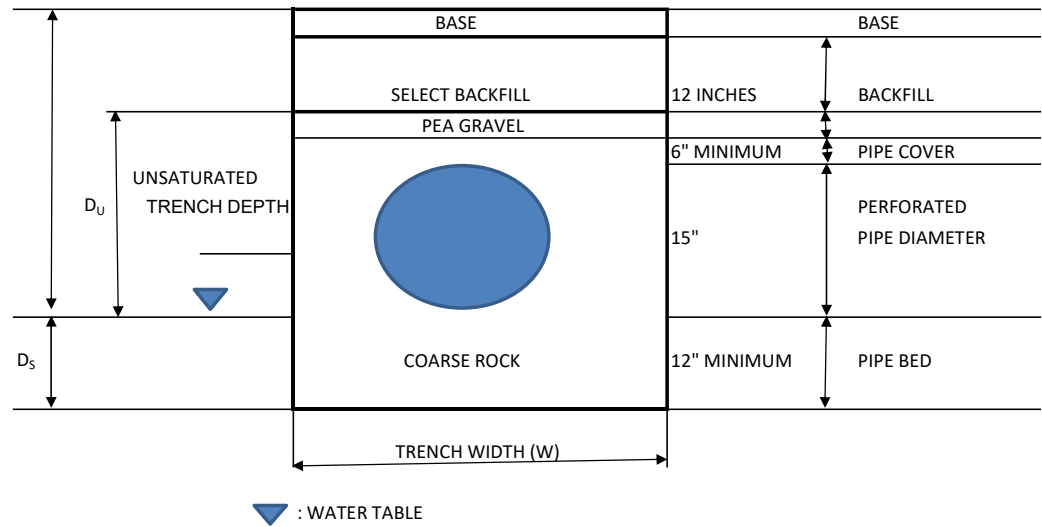
W = 8

D<sub>U</sub> = 5

D<sub>S</sub> = 0

L<sub>R</sub> = 126.92' of exfiltration trench required.

L<sub>P</sub> = 163.00' of exfiltration trench provided.



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**Pre Development**

**All Elevations are referenced to NAVD88 vertical datum**

### Site Data

Project Area:	0.47 AC	
Pavement Area:	0.15 AC	
Building Area:	0.09 AC	
Grass Area (Pervious):	0.23 AC	
Lake Area:	0 AC	
Total Pervious Area:	0.23 AC	48.94%
Total Impervious Area:	0.24 AC	51.06%

### Design Parameters

Water Table Elevation:	1.50 ft
Exist. Crown of Road Elev.:	12.53 ft
Average Finished Grades:	12.50 ft
Exist. Finished Floor Elev.:	13.60 ft

### C Factor

Pervious:	0.6
Impervious:	0.9

$$C \text{ Factor (weighted)} = \frac{0.23 (0.60) + 0.15 (.90)}{0.38} = 0.72$$

### Storm Event Information

3 year, 1 hour event:	2.5 inches (for retention/detention)
5 year, 1 hour event:	3.28 inches (for lowest parking lot pavement elevation)
25 year, 24 hour event:	10.50 inches
25 year, 72 hour event:	14.27 inches (Perimeter Control Elevation)
100 year, 24 hour event:	13 inches
100 year, 72 hour event:	17.67 inches (Finished Floor Elevation)

## Soil Storage (S) & Curve Number (CN)

All Elevations are referenced to NAVD88

### Cumulative Water Storage (CWS)

Design Water Table (WT) = 1.50 ft

Average Finished Grade = 12.50 ft

Average Depth to Water Table (DWT) = 11.00 ft

Cumulative Water Storage (CWS) = 6.75 IN

(from table below)

### Cumulative Soil Moisture Storage (flatwoods soil)

DWT	NAS	DAS
1.0'	0.60"	0.45"
2.0'	2.50"	1.88"
3.0'	5.40"	4.05"
4.0'	9.00"	6.75"

DWT=Depth to Water Table

NAS=Natural Available Storage

DAS=Developed Available Storage

### Soil Storage (S in inches)

$S = CWS \times (\text{percentage of total pervious area}) =$

3.30

### Curve Number (CN)

$CN = 1000 / (S + 10) =$  75.17

## Runoff (Q) & Runoff Volume (V) Calculations

All Elevations are referenced to NAVD88

$$Q = (P - 0.2S)^2 / (P + 0.8S) \qquad V = Q \times A \text{ (ft/ 12 in)}$$

Q = direct runoff (inches)

P = rainfall (inches)

S = soil storage (inches)

A = site area (acre)

V = Runoff Volume (ac-ft)

### Finished Floor Elevation

P<sub>1 day</sub> = 100 year, 24 hour event: 13 (inches)

P<sub>3 day</sub> = 100 year, 72 hour event: 17.67 (inches)

S = 3.30 (inches)

A = 0.47 (acre)

Q = 14.24 (inches)

V = 0.56 (ac-ft)

Corresponding Stage = 14.17 ft

### Perimeter Control Elevation

P<sub>1 day</sub> = 25 year, 24 hour event: 10.5 (inches)

P<sub>3 day</sub> = 25 year, 72 hour event: 14.27 (inches)

S = 3.30 (inches) (see "Soil Storage" sheet

A = 0.47 (acre) for calculating "S")

Q = 10.95 (inches)

V = 0.43 (ac-ft)

Corresponding Stage = 13.79 ft

## Stage Storage

All Elevations are referenced to NAVD88

**Total Surface Storage Area = 0.47 AC**

(0.207 AC)

(0.15 AC)

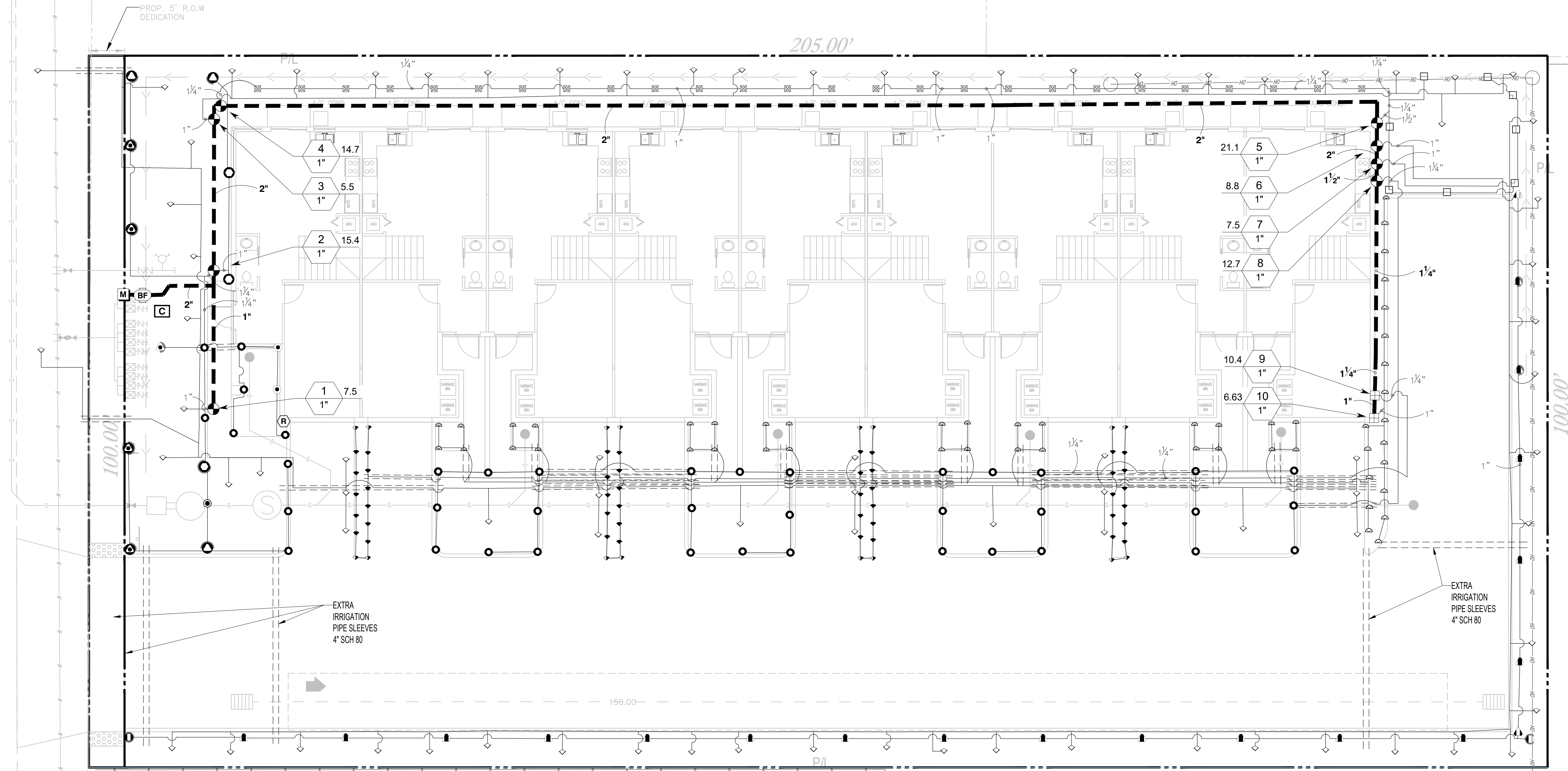
(Lin. 12.00'-12.50')

(Lin. from 12.50'-13.60')

<b>Stage</b>	<b>Surface Storage (Landscape)</b>	<b>Surface Storage (Pavement)</b>	<b>Trench Storage</b>	<b>Total</b>
12.00 '	0.00 AC-FT	0.00 AC-FT	0.000 AC-FT	0.00 AC-FT
12.50 '	0.05 AC-FT	0.00 AC-FT	0.000 AC-FT	0.05 AC-FT
13.00 '	0.16 AC-FT	0.04 AC-FT	0.000 AC-FT	0.19 AC-FT
13.50 '	0.26 AC-FT	0.08 AC-FT	0.000 AC-FT	0.33 AC-FT
14.00 '	0.36 AC-FT	0.14 AC-FT	0.000 AC-FT	0.50 AC-FT
14.50 '	0.47 AC-FT	0.22 AC-FT	0.000 AC-FT	0.68 AC-FT

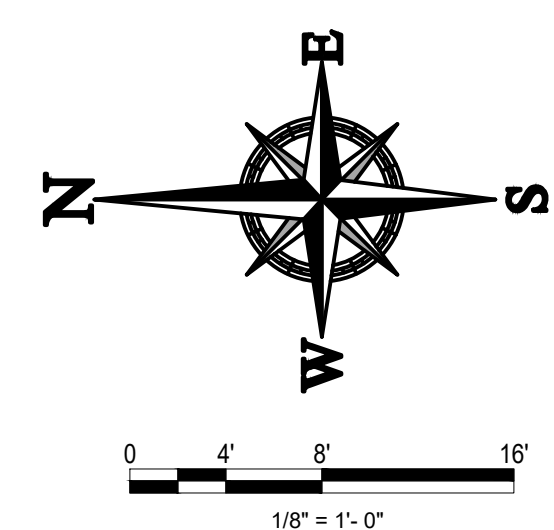
\*total landscape area=0.23 AC. 10% reduction applied (-0.023 AC) due to loss of stormwater storage from tree trunks.

LINCOLN STREET



GENERAL IRRIGATION NOTES:

- POINTS OF CONNECTION SHALL BE A NEW 1" METER & 2" SERVICE LINE WITH CITY WATER. VERIFY THE ACTUAL LOCATION, SIZE AND WATER PRESSURE IN THE FIELD PRIOR TO STARTING WORK. IF ANY OF THE POC INFORMATION SHOWN ON THESE DRAWINGS IS FOUND TO BE DIFFERENT THAN THE ACTUAL POC INFORMATION GATHERED IN THE FIELD, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT. SHOULD THE CONTRACTOR FAIL TO VERIFY THE POC INFORMATION ANY CHANGES REQUIRED BY LOW PRESSURE OR VOLUME SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.  
MINIMUM PRESSURE REQUIRED 51 PSI  
DESIGN STATIC WATER PRESSURE 55 PSI  
MAXIMUM SYSTEM DEMAND 30 GPM
- ALL LOCAL MUNICIPAL AND STATE LAWS, RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH THE CODES & STANDARDS OF THE LOCAL CITY, COUNTY, STATE, FIRE PROTECTION ASSOCIATION (NFPA), AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM), NATIONAL SANITATION FOUNDATION (NSF), & THE IRRIGATION ASSOCIATION (IA) STANDARDS & CODES WITH REGARDS TO MATERIALS, EQUIPMENT, AND INSTALLATION METHODS
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL OBTAIN THE PERTINENT ENGINEERING, ARCHITECTURAL OR OTHER RELEVANT CONSULTANT PLANS BEFORE BEGINNING WORK. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK INDICATED HEREIN BEFORE BEGINNING WORK.
- THIS DESIGN IS DIAGRAMMATIC. ALL EQUIPMENT SHOWN IN PAVED AREAS IS FOR DESIGN CLARITY ONLY AND IS TO BE INSTALLED WITHIN PLANTING AREAS.
- THE CONTRACTOR SHALL NOT FULLY INSTALL ANY EQUIPMENT AS SHOWN ON THE PLANS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN CONDITIONS EXIST THAT WERE NOT EVIDENT AT THE TIME THESE PLANS WERE PREPARED. ANY SUCH CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO ANY WORK OR THE IRRIGATION CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY FIELD CHANGES DEEMED NECESSARY BY THE OWNER.
- INSTALL ALL EQUIPMENT AS SHOWN IN THE DETAILS AND SPECIFICATIONS.
- PLASTIC PIPE, FITTINGS, AND CONNECTIONS SHALL BE AS FOLLOWS:  
1. POLYVINYL CHLORIDE PIPE: ASTM D2411, RIGID, UNPLASTICIZED PVC, EXTRUDED FROM VIRGIN PARENT MATERIAL. PROVIDE PIPE HOMOGENEOUS THROUGHOUT AND FREE FROM VISIBLE CRACKS, HOLES, FOREIGN MATERIALS, BLISTERS, WRINKLES AND DENTS. SDR 21, CLASS 200 FOR MAINLINE, SDR 16, CLASS 160 FOR 1-1/2" AND LARGER, OR OTHERWISE SDR 7 POLYETHYLENE PIPE FOR LATERALS.  
2. POLYETHYLENE PIPE: ASTM D2239 FLEXIBLE POLYETHYLENE PIPE RATED AT 100 PSI MINIMUM WORKING PRESSURE.  
3. PVC PIPE FITTINGS: ASTM D2411 SCHEDULE 40 PVC MOLDED FITTINGS SUITABLE FOR SOLVENT WELD. SLIP JOINT RING TIGHT SEAL OR SREWED CONNECTIONS. FITTINGS MADE OF OTHER MATERIALS ARE NOT PERMITTED.  
A. SIZE SLIP FITTING SOCKET TAPER TO PERMIT A DRY UNSOFTENED PIPE END TO BE INSERTED NO MORE THAN HALF WAY INTO THE SOCKET. NO SADDLE AND CROSS FITTINGS.  
B. SCHEDULE 80 PVC PIPE MAY BE THREADED.  
4. INSERT FITTINGS: ASTM D2468 INSERT TYPE FITTINGS.  
5. SPRINKLER RISERS SHALL BE CUT-OFF POLYETHYLENE. HEIGHT AS REQUIRED FOR 100% COVERAGE.  
6. LOW VOLTAGE WIRE CONNECTORS SHALL BE SOCKET SEAL TYPE WIRE CONNECTORS AND 3M DRY DIRECT BURY SPLICE KIT.
- ACTUAL LOCATION FOR THE INSTALLATION OF THE BACKFLOW PREVENTER AND THE AUTOMATIC CONTROLLER IS TO BE DETERMINED IN THE FIELD BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
- CONTRACTOR IS TO PROVIDE AN ADDITIONAL PILOT WIRE FROM CONTROLLER ALONG ENTIRETY OF MAIN LINE TO THE LAST RCV ON EACH AND EVERY LEG OF MAIN LINE. LABEL SPARE WIRES AT BOTH ENDS.
- MAINLINE, LATERAL LINES, CONTROL VALVES, AND RELATED EQUIPMENT SHOWN WITHIN PAVING FOR CLARITY ONLY. INSTALL WITHIN PAVEMENT AREA AND A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP. CONFIRM ALL LAYOUT IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.
- ALL PIPE UNDER PAVED AREAS TO BE INSTALLED IN SCHEDULE 80 PVC SLEEVING AT LEAST TWICE THE DIAMETER OF THE PIPE CARRIED. ALL WIRE UNDER PAVED AREAS TO BE INSTALLED IN A SCH. 40 SLEEVE THE SIZE REQUIRED TO EASILY PULL WIRE THROUGH. ALL SLEEVES TO BE INSTALLED WITH A MINIMUM DEPTH AS SHOWN ON THE SLEEVING DETAILS. SLEEVES TO EXTEND AT LEAST 12" PAST THE EDGE OF THE PAVING.
- ALL QUICK COUPLER AND REMOTE CONTROL VALVES TO BE INSTALLED IN SHRUB OR GROUND COVER AREAS WHERE POSSIBLE. ALL QUICK COUPLER AND REMOTE CONTROL VALVES TO BE INSTALLED AS SHOWN ON THE INSTALLATION DETAILS. INSTALL ALL QUICK COUPLER AND REMOTE CONTROL VALVES WITHIN 18" OF HARDSCAPE.
- ALL HEADS ARE TO BE INSTALLED WITH THE NOZZLE, SCREEN AND ARCS SHOWN ON THE PLANS. ALL HEADS ARE TO BE ADJUSTED TO PREVENT OVERSPRAY ONTO BUILDINGS, WALLS, FENCES AND HARDSCAPE. THIS INCLUDES, BUT NOT LIMITED TO, ADJUSTMENT OF DIFFUSER PIN OR ADJUSTMENT SCREW, REPLACEMENT OF PRESSURE COMPENSATING SCREENS, REPLACEMENT OF NOZZLES WITH MORE APPROPRIATE RADIUS UNITS AND THE REPLACEMENT OF NOZZLES WITH ADJUSTABLE ARC UNITS.
- CONTRACTOR SHALL ADJUST ALL HEADS AS REQUIRED TO PROVIDE 100% COVERAGE WITH MIN. 5% OVERLAP TO ACCOMMODATE ANY VERTICAL OBSTRUCTIONS THAT MAY OCCUR, INCLUDING BUT NOT LIMITED TO LIGHT POLES, FIRE HYDRANTS, ETC. VERIFY ALL HEAD LAYOUT WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK.
- CONTROLLER IS AS SPECIFIED. PRIOR TO STARTING WORK, CONTRACTOR TO VERIFY LOCATION AND FINAL LOCATION OF CONTROLLER AND ELECTRICAL POC SHALL BE CONFIRMED WITH OWNER'S AUTHORIZED REPRESENTATIVE.
- MANUFACTURERS SPECIFICATIONS & PROPER GROUNDING TECHNIQUES SHALL BE ADHERED TO FOR GROUNDING THE CONTROLLER AND RELATED EQUIPMENT. A PROPERLY INSTALLED GROUNDING SYSTEM SHOULD MAINTAIN A MINIMUM GROUND RESISTANCE OF 10 OHMS, OR LESS. MEASURE FOR PROPER GROUND AT LEAST ONCE ANNUALLY, AND NECESSARY ADJUSTMENTS MADE TO COMPLY WITH MANUFACTURER SPECIFICATIONS. INSPECT THE GROUNDING SYSTEM'S CLAMPED CONNECTIONS TO THE CONTROLLER ONCE A YEAR TO MAKE SURE THEY ARE SECURE AND CORROSION-FREE.
- INSTALLER IS REQUIRED TO CONDUCT FINAL TESTING & ADJUSTMENT TO ACHIEVE DESIGN SPECIFICATIONS, FREE OF LEAKS, PRIOR TO COMPLETION OF THE SYSTEM & ACCEPTANCE BY THE OWNER OR OWNER'S REPRESENTATIVE.
- FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE OF WORK PERFORMED UNDER THE IRRIGATION CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY FURNISH AND INSTALL ANY AND ALL PARTS AND EQUIPMENT WHICH PROVE DEFECTIVE IN MATERIAL, WORKMANSHIP OR INSTALLATION AT NO ADDITIONAL COST TO THE OWNER.



REVISIONS / SUBMISSIONS

NO.	DATE	DESCRIPTION



PHASE:

CLIENT:

9 UNIT TOWNHOMES  
2420 LINCOLN ST.  
HOLLYWOOD, FL 33020

**IRRIGATION PLAN**



RYAN J. KING EBRAHIMIAN  
LA6667324

DRAWN BY: RJK

CHECKED BY:

DATE: 2023-06-28

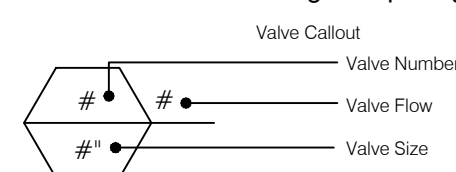
SHEET NUMBER:

IR-1



## IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	Rain Bird 1806-PRS 8 Series MPR Turf Spray 6" pop-up with pressure regulator.	26	30
	Rain Bird 1806-PRS 12 Series MPR Turf Spray 6" pop-up with pressure regulator.	8	30
	Rain Bird R-VAN-STRIP 1806-SAM-P45 Shrub Rotary, 5' x15' (LCS and RCS), 5' x30' (SST) Hand Adjustable Multi-Stream Rotary w/1800 turf spray body on 6" pop-up, with check valve and 45 psi in-stem pressure regulator. 1/2" NPT Female Threaded Inlet.	20	35
	Rain Bird R-VAN14 1806-SAM-P45 Turf Rotary, 8'-14' 45-270 degrees and 360 degrees. Hand Adjustable Multi-Stream Rotary w/1800 turf spray body on 6" pop-up, with check valve and 45 psi in-stem pressure regulator. 1/2" NPT Female Threaded Inlet.	1	35
	Rain Bird R-VAN18 1806-SAM-P45 Turf Rotary, 13'-18' 45-270 degrees and 360 degrees. Hand Adjustable Multi-Stream Rotary w/1800 turf spray body on 6" pop-up, with check valve and 45 psi in-stem pressure regulator. 1/2" NPT Female Threaded Inlet.	3	35
	Rain Bird R-VAN24 1806-SAM-P45 Turf Rotary, 17'-24' 45-270 degrees and 360 degrees. Hand Adjustable Multi-Stream Rotary w/1800 turf spray body on 6" pop-up, with check valve and 45 psi in-stem pressure regulator. 1/2" NPT Female Threaded Inlet.	4	35
	Rain Bird R-VAN-STRIP 1812-SAM-P45 Shrub Rotary, 5' x15' (LCS and RCS), 5' x30' (SST) Hand Adjustable Multi-Stream Rotary w/1800 shrub spray body on 12" pop-up, with check valve and 45 psi in-stem pressure regulator. 1/2" NPT Female Threaded Inlet.	1	35
	Rain Bird R-VAN-STRIP PA-8S (2) Shrub Rotary on fixed riser w/ PA-8S Plastic Shrub Adapter. 5ft.x15ft. (LCS and RCS), 5ft.x30ft. (SST) Hand Adjustable Multi-Stream Rotary. Use with 1/2in. MPT threaded risers.	1	35
	Rain Bird R-VAN14 1812-SAM-P45 Shrub Rotary, 8'-14' 45-270 degrees and 360 degrees. Hand Adjustable Multi-Stream Rotary w/1800 shrub spray body on 12" pop-up, with check valve and 45 psi in-stem pressure regulator. 1/2" NPT Female Threaded Inlet.	40	35
	Rain Bird R-VAN14 PA-8S (2) Shrub Rotary on fixed riser w/ PA-8S Plastic Shrub Adapter. 8ft.-14ft. 45-270 degrees and 360 degrees. Hand Adjustable Multi-Stream Rotary. Use with 1/2in. MPT threaded risers.	2	35
	Rain Bird R-VAN18 PA-8S (2) Shrub Rotary on fixed riser w/ PA-8S Plastic Shrub Adapter. 13ft.-18ft. 45-270 degrees and 360 degrees. Hand Adjustable Multi-Stream Rotary. Use with 1/2in. MPT threaded risers.	3	35
	Rain Bird 1400 Flood 1401 Fixed flow rate (0.25 GPM), full circle bubbler, 1/2" FIPT.	82	30
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	Rain Bird XCZ-100-LC Wide Flow Drip Control Kit, for Light Commercial Uses. 1" PEB Valve, with 1" Pressure Regulating 40psi Basket Filter. 0.3-20 GPM.	2	
	Rain Bird XP-0600X MPR sprays 5' radius Low-Volume, Low-Pressure, Drip 6.0" Pop-Up Spray, 1/4" Barbed Inlet. Nozzle Options: SQ Series, 5 MPR Series, 8 MPR Series, and 5 Series Plastic Bubbler. *Note* Always install a Pressure Compensating Screen w/Plastic Bubbler 5 Series.	60	
	Rain Bird XP-1200X (2) SQ Series Low-Volume, Low-Pressure, Drip 12.0" Pop-Up Spray, 1/4" Barbed Inlet. Nozzle Options: SQ Series, 5 MPR Series, 8 MPR Series, and 5 Series Plastic Bubbler. *Note* Always install a Pressure Compensating Screen w/Plastic Bubbler 5 Series.	51	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	Rain Bird PEB 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration.	8	
	Febco 765 1-1/2" Pressure Vacuum Breaker, brass with ball valve SOV. Install 12" above highest downstream outlet and the highest point in the downstream piping.	1	
	Rain Bird ESP4ME3 with (2) ESP-SM3 10 Station, Hybrid Modular Outdoor Controller. For Residential or Light Commercial Use. LNK WiFi Module and Flow Sensor Ready.	1	
	Rain Bird RSD-BEX Rain Sensor, with metal latching bracket, extension wire.	1	
	Water Meter 1" New 1" Water Meter & 2" HDPE SDR 9 Service Line w/ City Water	1	
	Irrigation Lateral Line: Polyethylene Pipe SDR-7 Polyethylene SDR-7 sized 1" up to 1-1/4". Only lateral transition pipe sizes 1-1/4" and above are indicated on the plan, with all others being 1" in size.	2,724 l.f.	
	Irrigation Lateral Line: PVC Class 160 SDR 26 PVC Class 160 SDR 26 for 1-1/2" and larger.	2.4 l.f.	
	Irrigation Mainline: PVC Class 200 SDR 21 PVC Class 200 SDR 21 for Mainline pipe minimum 1" & larger.	263.9 l.f.	
	Pipe Sleeve: PVC Schedule 80 Typical pipe sleeve for irrigation pipe. Pipe sleeve size shall allow for irrigation piping and their related couplings to easily slide through sleeving material. Extend sleeves 18 inches beyond edges of paving or construction.	536.9 l.f.	



## VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	DESIGN PSI	FRICTION LOSS	VALVE LOSS	PSI	PSI @ POC	PRECIP
1	Rain Bird PEB	1"	Bubbler	7.5	30.3	30	0.66	1.75	32.4	40.6	0.87 in/h
2	Rain Bird PEB	1"	Shrub Rotary	15.43	15.1	35	0.46	2.4	37.9	45.9	0.82 in/h
3	Rain Bird PEB	1"	Bubbler	5.5	36.4	30	0.74	1.71	32.4	40.6	0.85 in/h
4	Rain Bird PEB	1"	Turf Spray	14.7	39.2	30	1.02	2.32	33.3	41.5	1.26 in/h
5	Rain Bird PEB	1"	Turf Spray	21.05	204.7	30	0.84	3.18	34.0	43.2	1.49 in/h
6	Rain Bird PEB	1"	Turf Rotary	8.8	207.9	35	2.77	1.78	39.6	48.8	0.6 in/h
7	Rain Bird PEB	1"	Bubbler	7.5	210.4	30	1.91	1.75	33.7	42.9	0.85 in/h
8	Rain Bird PEB	1"	Shrub Rotary	12.67	212.8	35	2.02	2.09	39.1	48.4	0.67 in/h
9	Rain Bird XCZ-100-LC	1"	Drip Emitter	10.4	243.0	30	2.63	8.64	41.3	51.0	2.6 in/h
10	Rain Bird XCZ-100-LC	1"	Drip Emitter	6.63	246.1	20	0.33	4.63	25.0	34.7	1.67 in/h
	Common Wire			263.9							

## WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	Rain Bird PEB	Bubbler	0.87 in/h	1	69	517.5	
2	Rain Bird PEB	Shrub Rotary	0.82 in/h	1	74	1,142	
3	Rain Bird PEB	Bubbler	0.85 in/h	1	71	390.5	
4	Rain Bird PEB	Turf Spray	1.26 in/h	1.5	72	1,058	
5	Rain Bird PEB	Turf Spray	1.49 in/h	1.5	61	1,284	
6	Rain Bird PEB	Turf Rotary	0.6 in/h	1.5	151	1,329	
7	Rain Bird PEB	Bubbler	0.85 in/h	1	71	532.5	
8	Rain Bird PEB	Shrub Rotary	0.67 in/h	1	91	1,153	
9	Rain Bird XCZ-100-LC	Drip Emitter	2.6 in/h	1	24	249.6	
10	Rain Bird XCZ-100-LC	Drip Emitter	1.67 in/h	1	36	238.7	
		TOTALS:			720	7,895	

## CRITICAL ANALYSIS

Generated: 2023-06-27 22:17

P.O.C. NUMBER: 01  
Water Source Information: New 1" Water Meter & 2" HDPE SDR 9 Service Line w/ City Water

FLOW AVAILABLE  
Water Meter Size: 1"  
Flow Available: 30.72 GPM

PRESSURE AVAILABLE  
Static Pressure at POC: 55 PSI  
Elevation Change: 4 ft  
Service Line Size: 2"  
Length of Service Line: 20 ft  
Pressure Available: 53 PSI

DESIGN ANALYSIS  
Maximum Multi-valve Flow: 30 GPM  
Flow Available at POC: 30.72 GPM  
Residual Flow Available: 0.72 GPM

Design Pressure: 30 PSI  
Friction Loss: 2.39 PSI  
Fittings Loss: 0.24 PSI  
Elevation Loss: 0 PSI  
Loss through Valve: 8.64 PSI  
Pressure Req. at Critical Station: 41.3 PSI  
Loss for Fittings: 0.16 PSI  
Loss for Main Line: 1.64 PSI  
Loss for POC to Valve Elevation: 0 PSI  
Loss for Backflow: 2.6 PSI  
Loss for Water Meter: 5.3 PSI  
Critical Station Pressure at POC: 51.0 PSI  
Pressure Available: 53 PSI  
Residual Pressure Available: 2.03 PSI

### REVISIONS / SUBMISSIONS



PHASE:

CLIENT:

9 UNIT TOWNHOMES  
2420 LINCOLN ST.  
HOLLYWOOD, FL 33020

IRRIGATION  
SCHEDULES



RYAN J. KING EBRAHIMIAN  
LA6667324

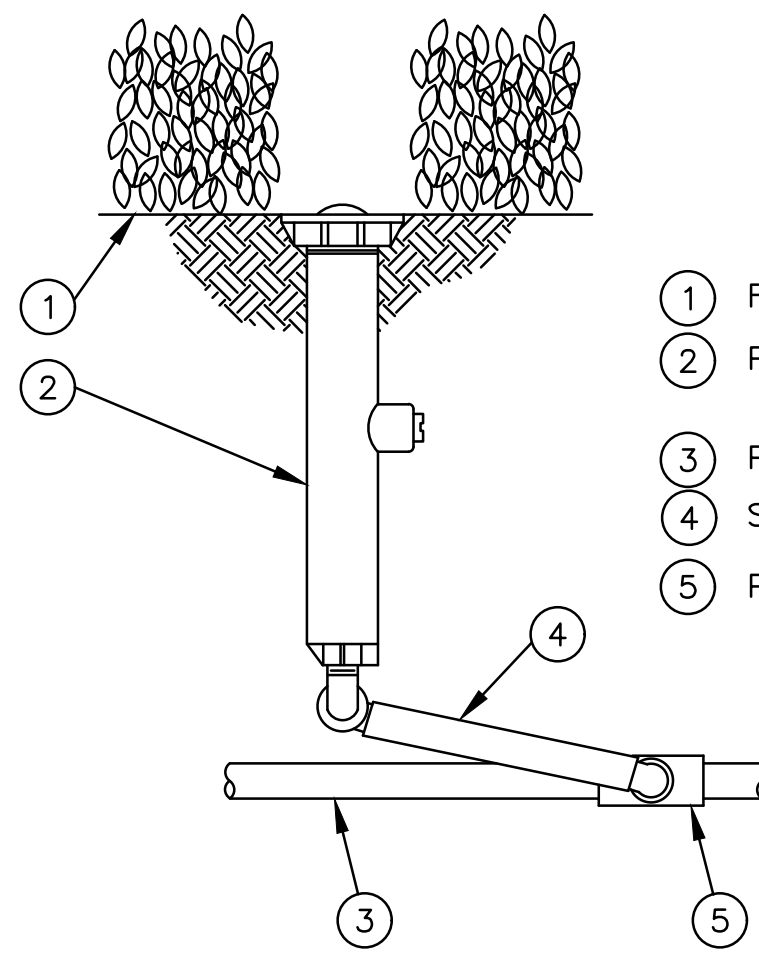
DRAWN BY: RJK

CHECKED BY:

DATE: 2023-06-27

SHEET NUMBER:

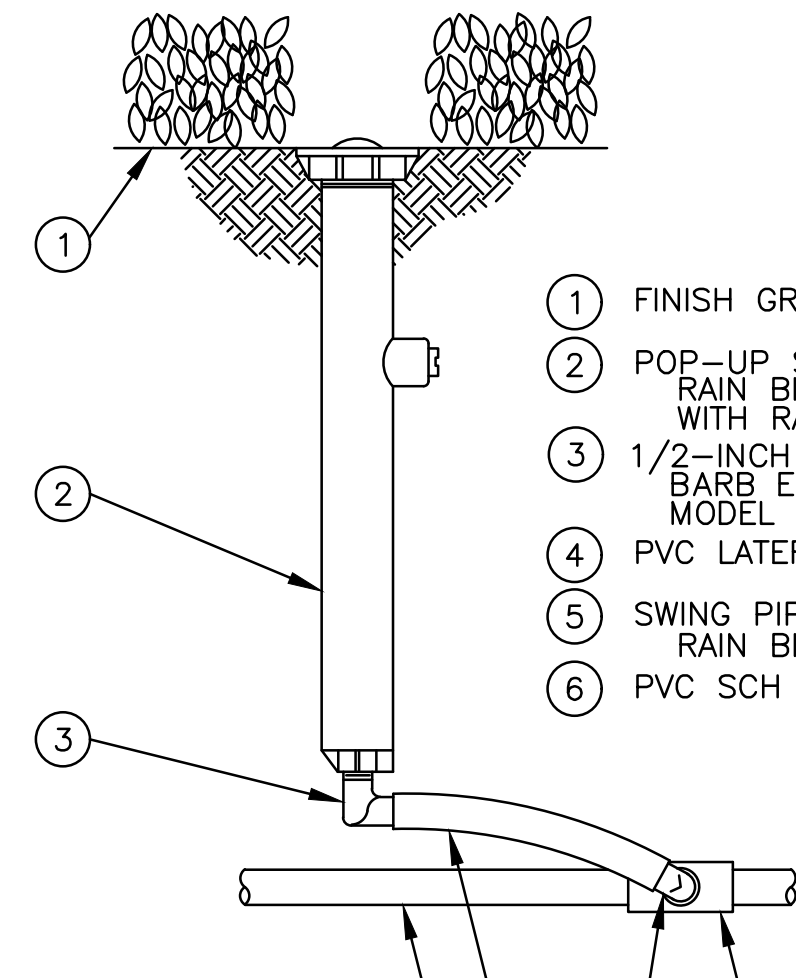
IR-2



- 1 FINISH GRADE/TOP OF MULCH
- 2 POP-UP SPRAY SPRINKLER: RAIN BIRD 1806 WITH RAIN BIRD ROTARY NOZZLE
- 3 PVC LATERAL PIPE
- 4 SWING ASSEMBLY: RAIN BIRD MODEL SA 6050
- 5 PVC SCH 40 TEE OR ELL

**A** 1806 POP-UP SPRAY SPRINKLER WITH ROTARY NOZZLE  
N.T.S.

S-1806Rotary-SP.DWG

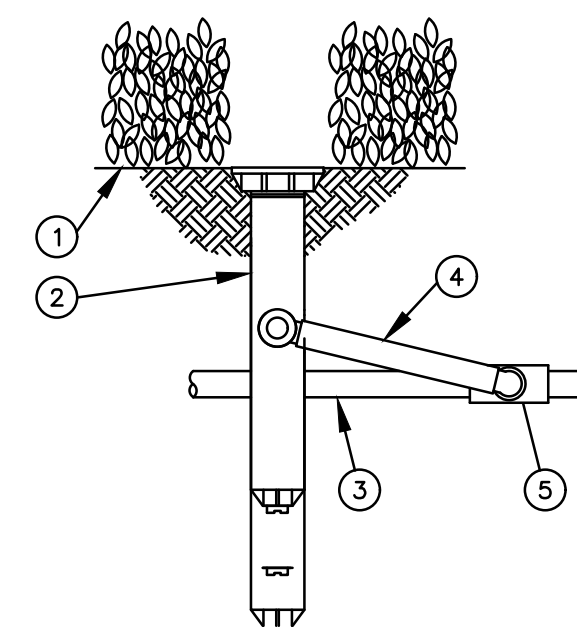


- 1 FINISH GRADE/TOP OF MULCH
- 2 POP-UP SPRAY SPRINKLER: RAIN BIRD 1812 WITH RAIN BIRD ROTARY NOZZLE
- 3 1/2-INCH MALE NPT x .490 INCH BARB ELBOW: RAIN BIRD MODEL SBE-050 -SAM
- 4 PVC LATERAL PIPE
- 5 SWING PIPE, 12-INCH LENGTH: RAIN BIRD MODEL SP-100
- 6 PVC SCH 40 TEE OR ELL

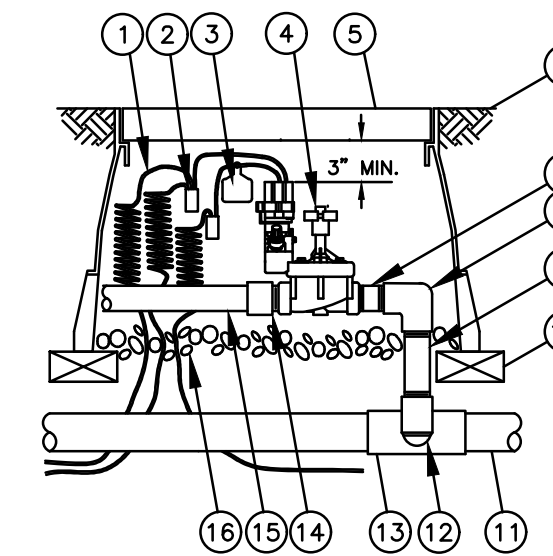
**B** 1812 POP-UP SPRAY SPRINKLER WITH ROTARY NOZZLE  
N.T.S.

S-1812Rotary-SP.DWG

- 1 FINISH GRADE/TOP OF MULCH
- 2 POP-UP SPRAY SPRINKLER: RAIN BIRD 1806-SI OR 1812-SI
- 3 PVC LATERAL PIPE
- 4 SWING ASSEMBLY: RAIN BIRD MODEL SA 6050
- 5 PVC SCH 40 TEE OR ELL



**C** POP-UP SPRAY SPRINKLER 1800-SI WITH SWING PIPE  
N.T.S.

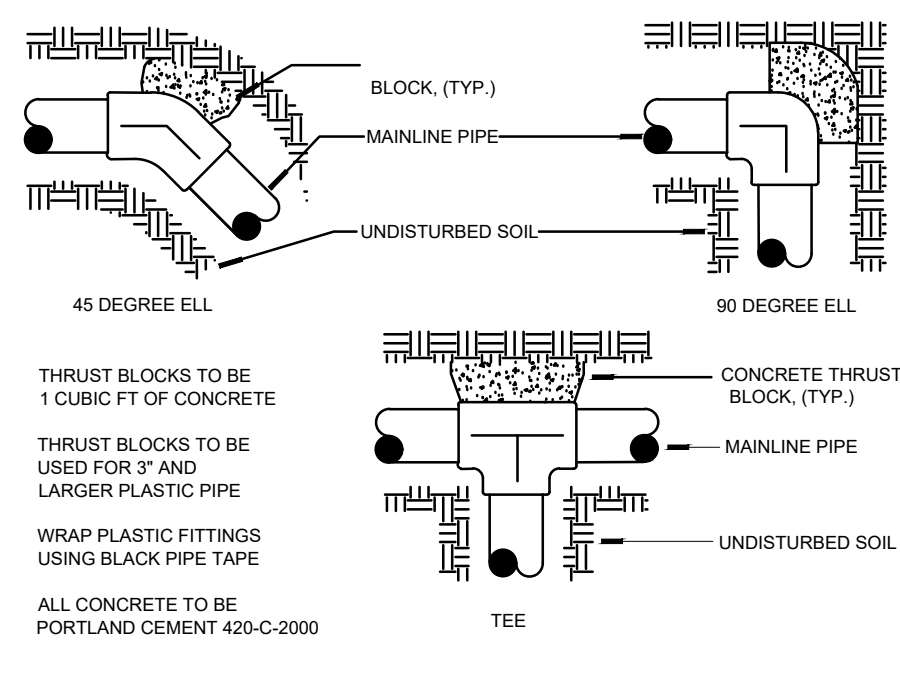
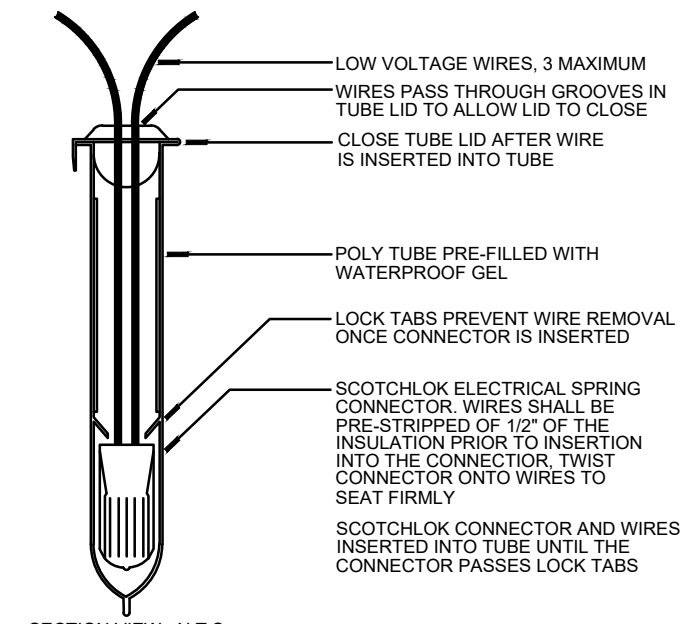


**D** ELECTRIC REMOTE-CONTROL VALVE PEB OR PEBS SERIES  
N.T.S.

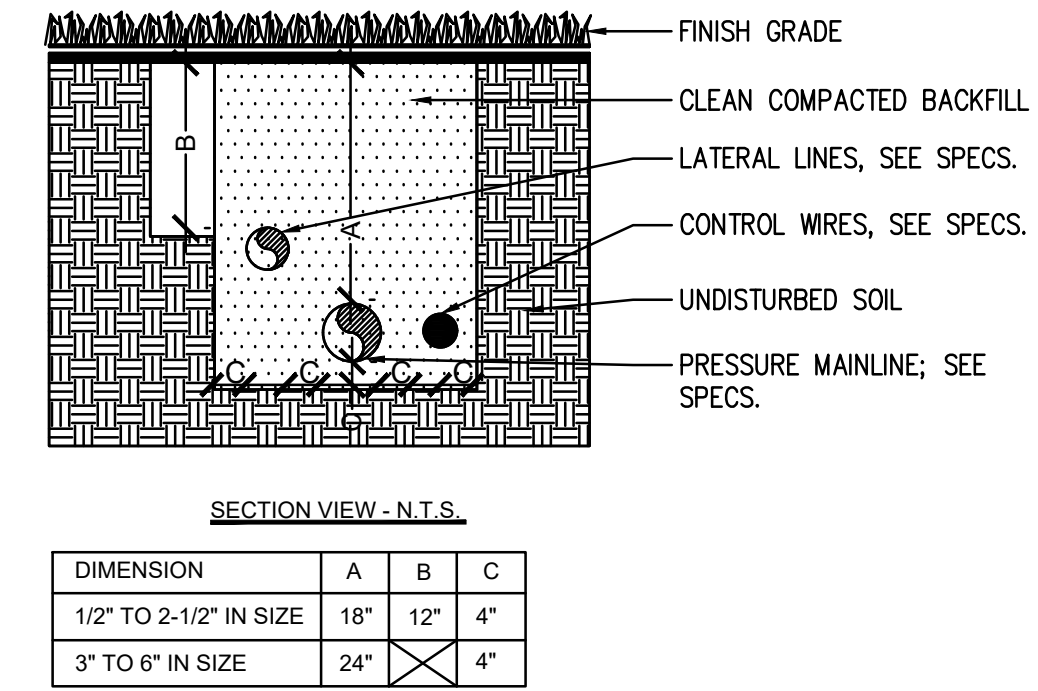
- 1 3/8-INCH LINEAR LENGTH OF WIRE, COILED
- 2 WATERPROOF CONNECTION: RAIN BIRD SPLICE-1 (1 OF 2)
- 3 ID TAG: RAIN BIRD VID SERIES
- 4 REMOTE CONTROL VALVE: RAIN BIRD PEB WITH NP-HAN
- 5 VALVE BOX WITH COVER: RAIN BIRD VB-STD
- 6 FINISH GRADE/TOP OF MULCH
- 7 PVC SCH 80 NIPPLE (CLOSE)
- 8 PVC SCH 40 ELL
- 9 PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- 10 BRICK (1 OF 4)
- 11 PVC MAINLINE PIPE
- 12 SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND SCH 40 ELL
- 13 PVC SCH 40 TEE OR ELL
- 14 PVC SCH 40 MALE ADAPTER
- 15 PVC LATERAL PIPE
- 16 3/4-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL

**E** WIRE CONNECTION  
N.T.S.

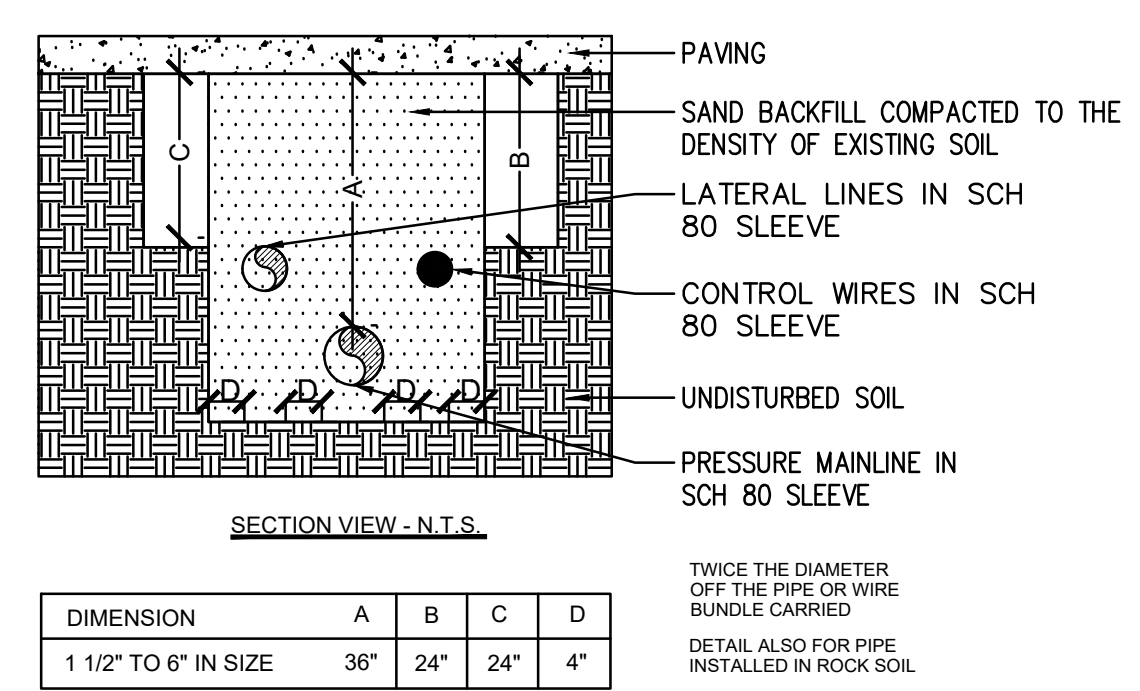
NOTE: WIRE CONNECTOR SHALL BE A 3M DBY-6 DIRECT BURY SPLICE KITS KIT SHALL INCLUDE A SCOTCHLOK Y SPRING CONNECTOR, A POLYPROPYLENE TUBE AND A WATERPROOF SEALING GEL. TUBE SHALL BE SUPPLIED PRE-FILLED WITH GEL. DIRECT BURY SPLICE KIT SHALL BE USED TO ELECTRICALLY CONNECT 3/4" OR 2 #12 PRE-STRIPPED COPPER WIRES. LARGER WIRES OR GREATER QUANTITIES OF WIRES SHALL REQUIRE A LARGER APPROVED WIRE CONNECTION.



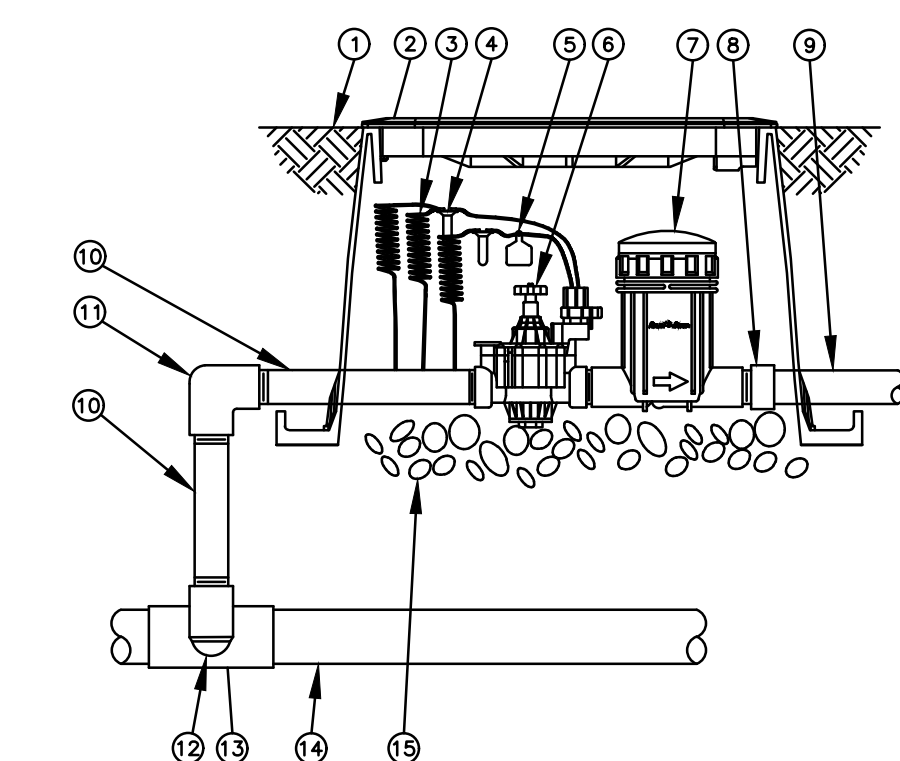
**F** THRUST BLOCKING  
N.T.S.



**G** PIPE INSTALLATION  
N.T.S.



**H** SLEEVE INSTALLATION  
N.T.S.

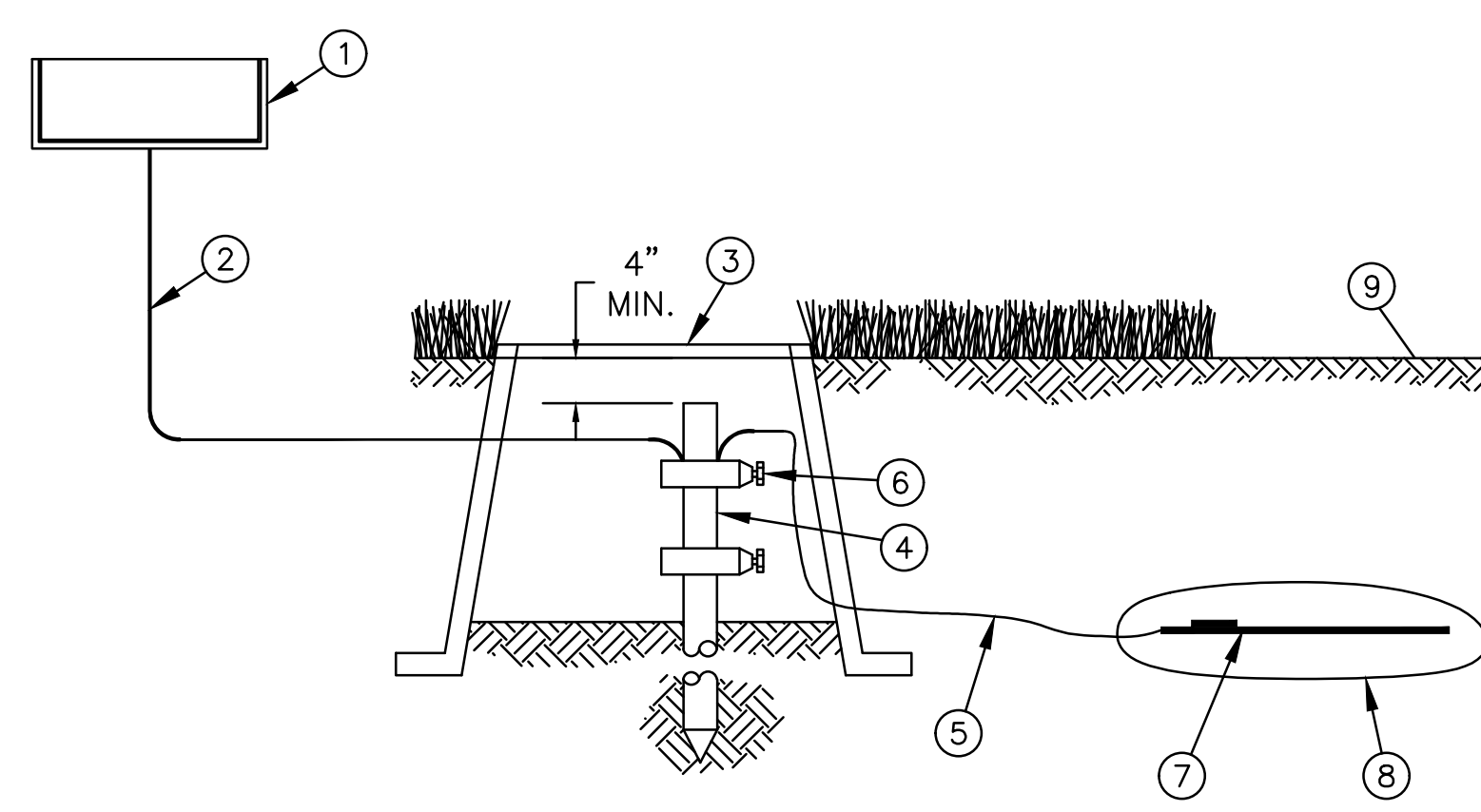


**I** XCV-100-PRB-LC 1" LIGHT COMMERCIAL CONTROL ZONE KIT OPTION 1  
N.T.S.

- 1 FINISH GRADE/TOP OF MULCH
- 2 VALVE BOX WITH COVER: RAIN BIRD VB-STD
- 3 3/8-INCH LINEAR LENGTH OF WIRE, COILED
- 4 WATERPROOF CONNECTION: RAIN BIRD SB SERIES
- 5 ID TAG
- 6 REMOTE CONTROL VALVE: RAIN BIRD 100-PCA (INCLUDED IN CZK-100-PRB-LC KIT)
- 7 PRESSURE REGULATING BASKET FILTER: RAIN BIRD PRB-100 (INCLUDED IN CZK-100-PRB-LC KIT)
- 8 PVC SCH 40 FEMALE ADAPTER
- 9 LATERAL PIPE
- 10 PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- 11 PVC SCH 40 ELL
- 12 PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL
- 13 PVC SCH 40 TEE OR ELL
- 14 MAINLINE PIPE
- 15 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL

12-22-10

CZK-100-PRB-LC Option 1.dwg

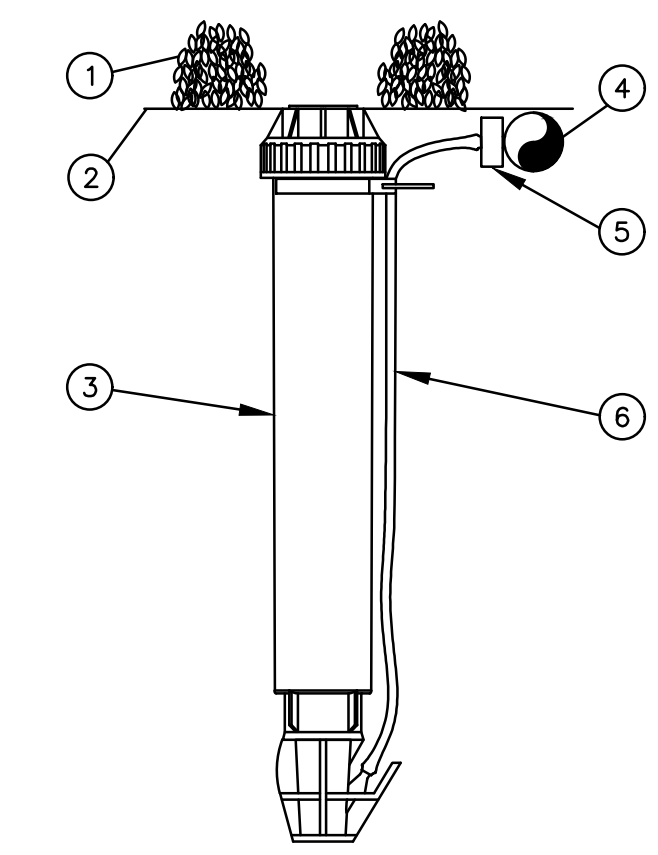


**J** CONTROLLER GROUNDING GRID GROUNDING PLATE DESIGN LAYOUT  
N.T.S.

D-GROUNDING PLATE GRID FOR CONTROLLER.DWG

- 1 RAIN BIRD CONTROLLER
- 2 SOLID BARE COPPER WIRE (#10 AWG) FROM GROUNDING ROD TO CONTROLLER. MAKE WIRE AS SHORT AND STRAIGHT AS POSSIBLE
- 3 COVER GROUNDING ROD WITH 10-INCH ROUND VALVE BOX AS SHOWN
- 4 5/8-INCH X 10 FT COPPER CLAD GROUNDING ROD OR GROUNDING PLATE. INSTALL RODS IN SOIL IN A TRIANGULAR PATTERN SPACED A MINIMUM OF 16 FT APART FROM EACH OTHER. GROUNDING GRID TO HAVE A RESISTANCE OF TEN (10) OHMS OR LESS
- 5 BARE COPPER WIRE (#6 AWG MIN.) BETWEEN GROUNDING ROD AND GROUNDING PLATE
- 6 GROUND ROD CLAMP OR WELDS
- 7 COPPER GROUNDING PLATE
- 8 GROUND ENHANCEMENT MATERIAL (IF REQUIRED)
- 9 FINISH GRADE

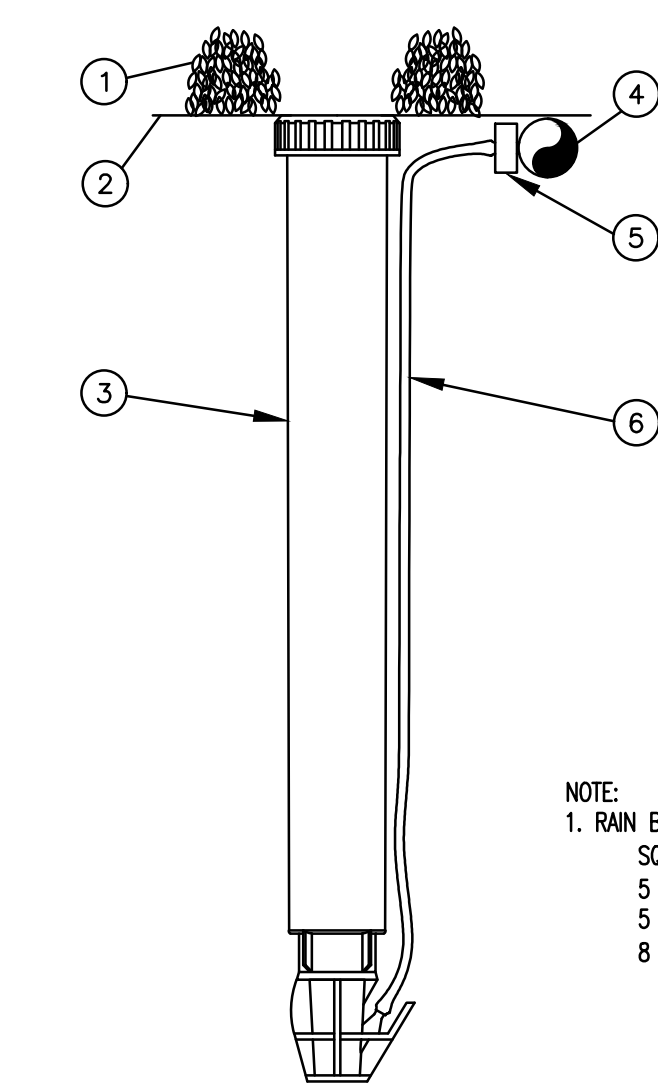
6-15-10



NOTE: 1. RAIN BIRD XERI-POP CAN UTILIZE THE FOLLOWING NOZZLES: SQ SQUARE NOZZLE (FORMERLY XPCN) 5 SERIES MPR NOZZLES (ALL CONFIGURATIONS) 5 SERIES PLASTIC BUBBLERS 8 SERIES MPR NOZZLES (8H, 8T AND 8O)

**K** XERI-POP MICRO-SPRAY 6" FROM BARBED CONNECTOR INTO 1/2" POLYETHYLENE TUBING - OPTION 1B  
N.T.S.

Xeri-Pop 6 Option 1B.dwg



- 1 PLANT MATERIAL
- 2 FINISH GRADE
- 3 MICRO-SPRAY POP-UP: RAIN BIRD XERI-POP XP-1200X
- 4 1/2" POLYETHYLENE TUBING: RAIN BIRD XF SERIES TUBING OR RAIN BIRD XT-700 XERI-TUBE OR RAIN BIRD XBS BLACK STRIPE TUBING
- 5 1/4" SELF-PIERCING BARB CONNECTOR: RAIN BIRD SPB-025
- 6 1/4" DISTRIBUTION TUBING: RAIN BIRD XQ TUBING (LENGTH AS REQUIRED)

NOTE: 1. RAIN BIRD XERI-POP CAN UTILIZE THE FOLLOWING NOZZLES: SQ SQUARE NOZZLES (FORMERLY XPCN) 5 SERIES MPR NOZZLES (ALL CONFIGURATIONS) 5 SERIES PLASTIC BUBBLERS 8 SERIES MPR NOZZLES (8H, 8T AND 8O)

**L** XERI-POP MICRO-SPRAY 12" FROM BARBED CONNECTOR INTO 1/2" POLYETHYLENE TUBING - OPTION 1C  
N.T.S.

Xeri-Pop 12 Option 1C.dwg

REVISIONS / SUBMISSIONS

NO.	DATE	DESCRIPTION



PHASE:

CLIENT:

9 UNIT TOWNHOMES  
2420 LINCOLN ST  
HOLLYWOOD, FL 33020  
**IRRIGATION DETAILS & NOTES**



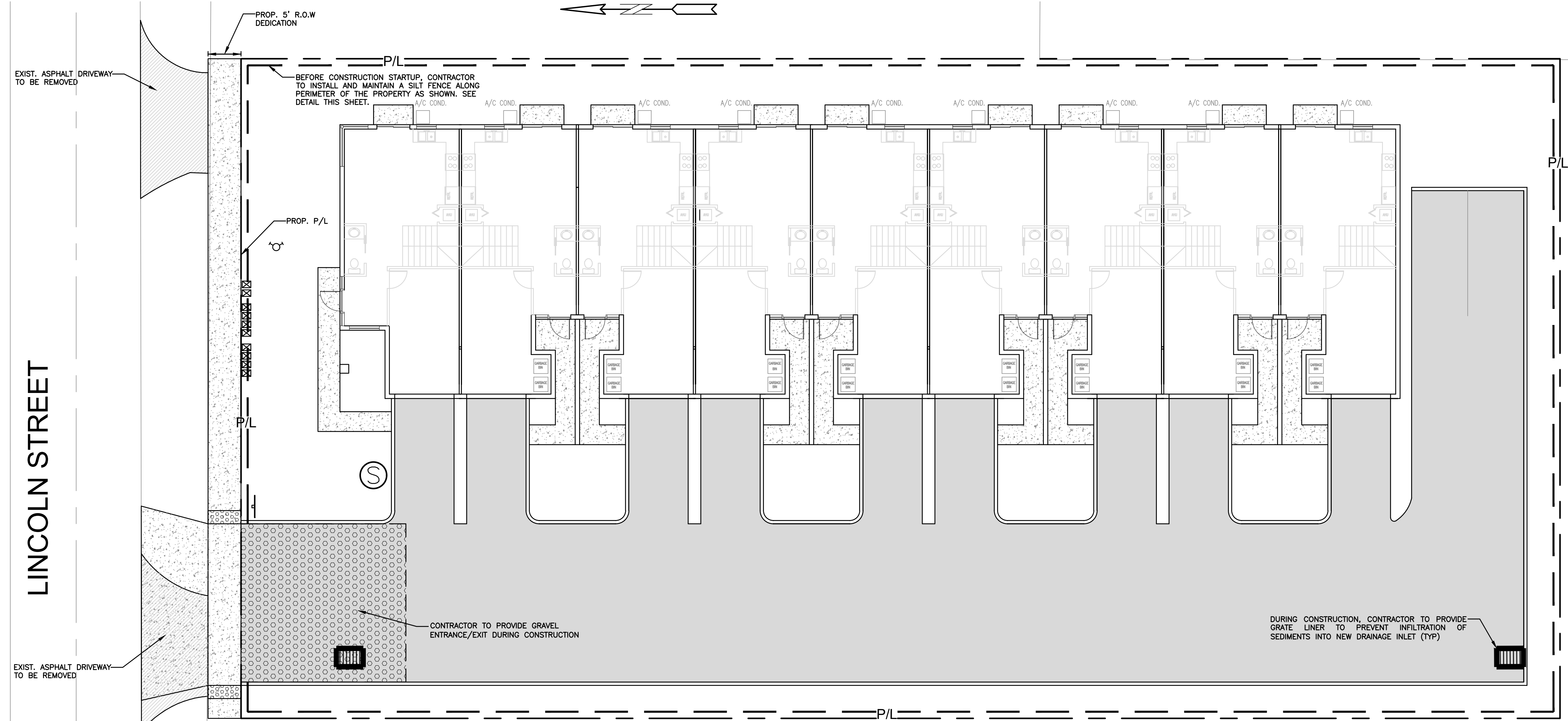
RYAN J. KING EBRAHIMIAN  
LA6667324

DRAWN BY: RJK  
CHECKED BY:  
DATE: 2023-06-27

SHEET NUMBER:  
**IR-3**

ALL ELEVATIONS ARE REFERENCED TO NAVD88 VERTICAL DATUM

LINCOLN STREET



NO.	DATE	DESCRIPTION
1	4-24-23	TAC REVIEW COMMENTS

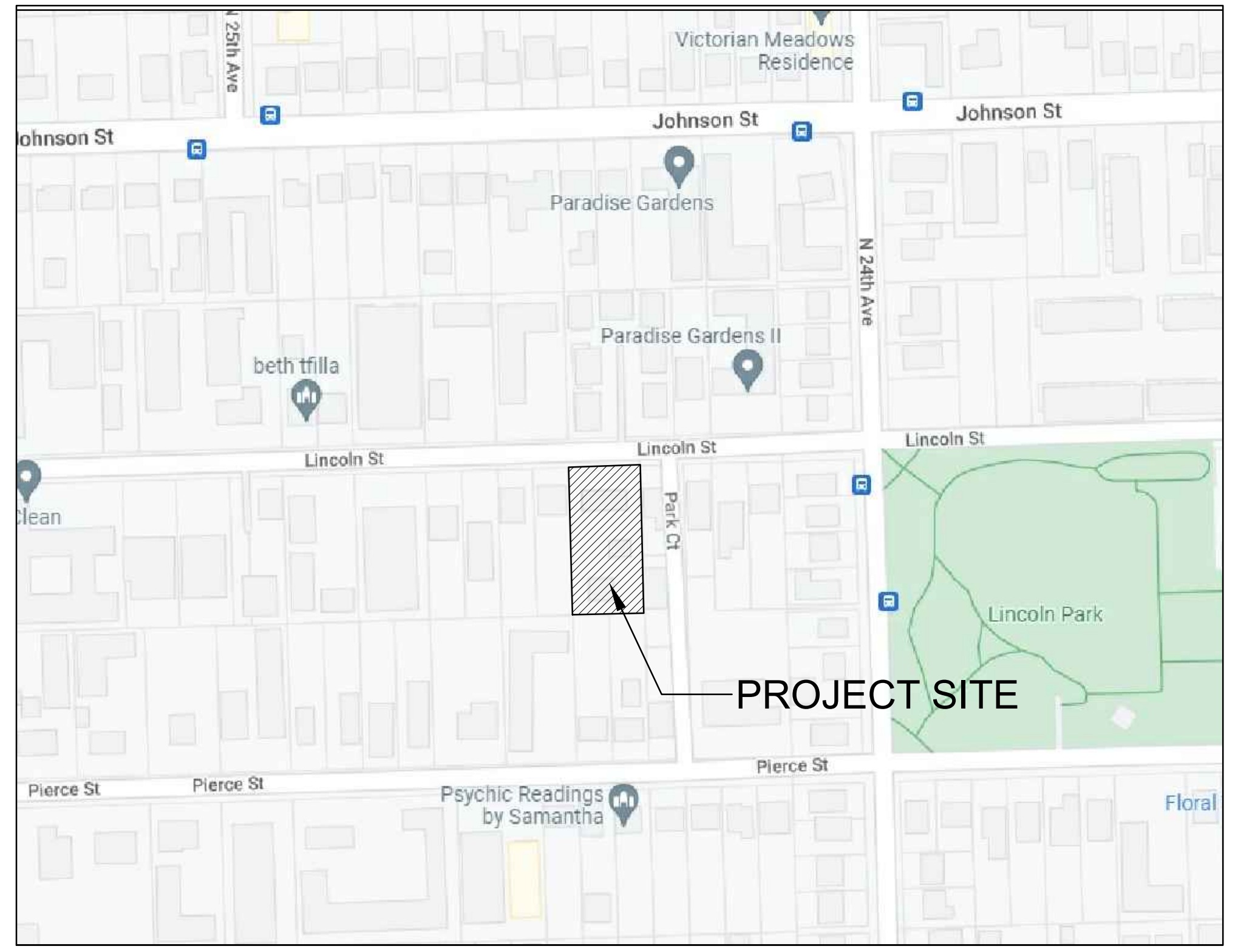
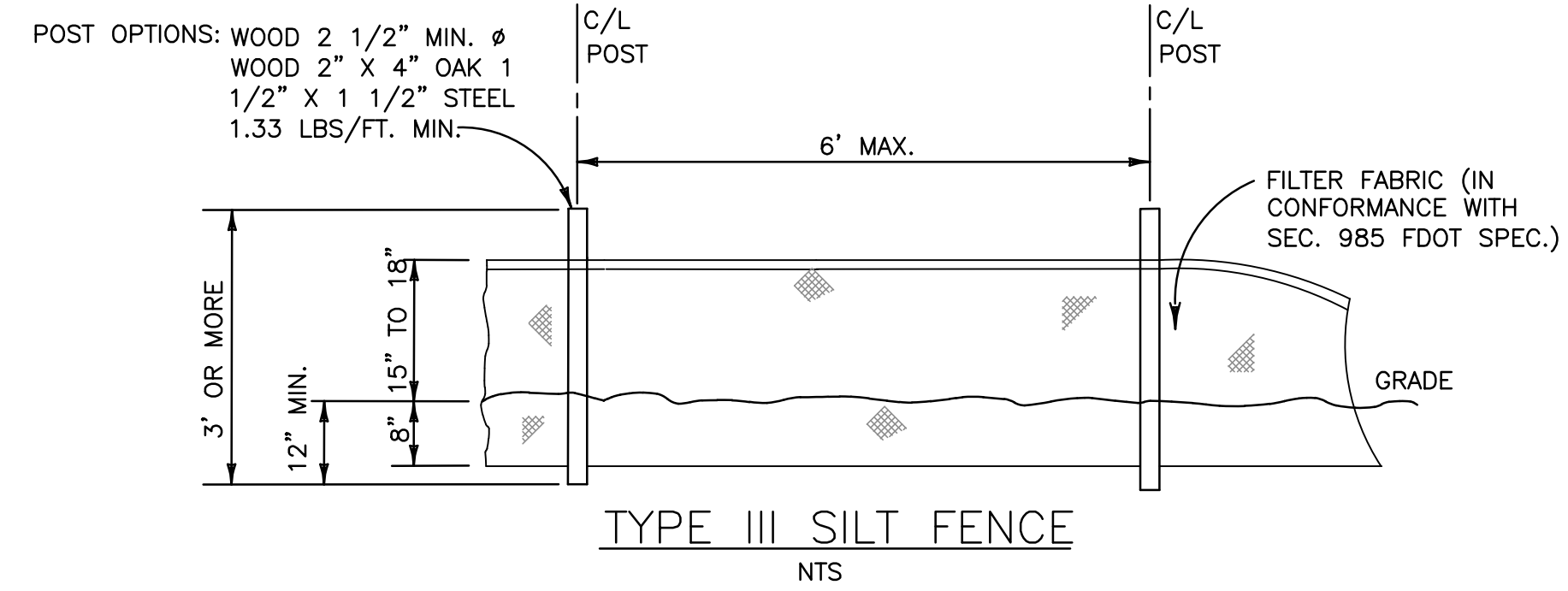
**ZEPHYR ENGINEERING**  
 WILFORD ZEPHYR, P.E.  
 HOLLYWOOD, FL  
 (786) 302-7693  
 wzephyreng@gmail.com  
 CA#: 31158

**ZE**

9 UNIT TOWNHOMES  
 2420 LINCOLN STREET  
 HOLLYWOOD, FL

P.E.#: 76036  
 DATE: 1/25/23  
 SCALE: 1"=10'  
 SHEET NO.: C1  
 1 OF 8  
 PROJECT NO.: 23-04

- BMP NOTES:**
1. ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE. PERIMETER SEDIMENT BARRIERS SHALL BE CONSTRUCTED TO PREVENT SEDIMENT OR TRASH FROM FLOWING OR FLOATING ON TO ADJACENT PROPERTIES.
  2. PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES MUST BE PROVIDED TO ENSURE INTENDED PURPOSE IS ACCOMPLISHED. THE DEVELOPER, OWNER AND/OR CONTRACTOR SHALL BE CONTINUALLY RESPONSIBLE FOR ALL SEDIMENT CONTROLS. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
  3. SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM WATER SYSTEM, DITCH OR CHANNEL. ALL STORMWATER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
  4. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE WITH CURBS AND GUTTERS, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL SUBDIVISION LOTS AS WELL AS TO LARGER LAND DISTURBING ACTIVITIES.
  5. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN THIRTY (30) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT UNDISTURBED FOR MORE THAN ONE YEAR.
  6. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED, COVERED OR CONTAINED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
  7. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.
  8. PROPERTIES AND WATER WAYS DOWNSTREAM FROM CONSTRUCTION SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND EROSION AT ALL TIMES DURING CONSTRUCTION.
  9. CONTRACTOR IS RESPONSIBLE FOR ALL SURFACE WATER DISCHARGES, RAINFALL RUN OFF OR DEWATERING ACTIVITIES.
  10. CONTRACTOR MUST INCORPORATE ALL BMP'S NECESSARY TO MEET OR EXCEED STATE WATER QUALITY AND SWPPP REQUIREMENTS.
  11. THE POLLUTION PREVENTION PLAN IS A MINIMUM GUIDELINE ONLY. ADDITIONAL BMP'S MAY BE NECESSARY AT CONTRACTOR'S EXPENSE.

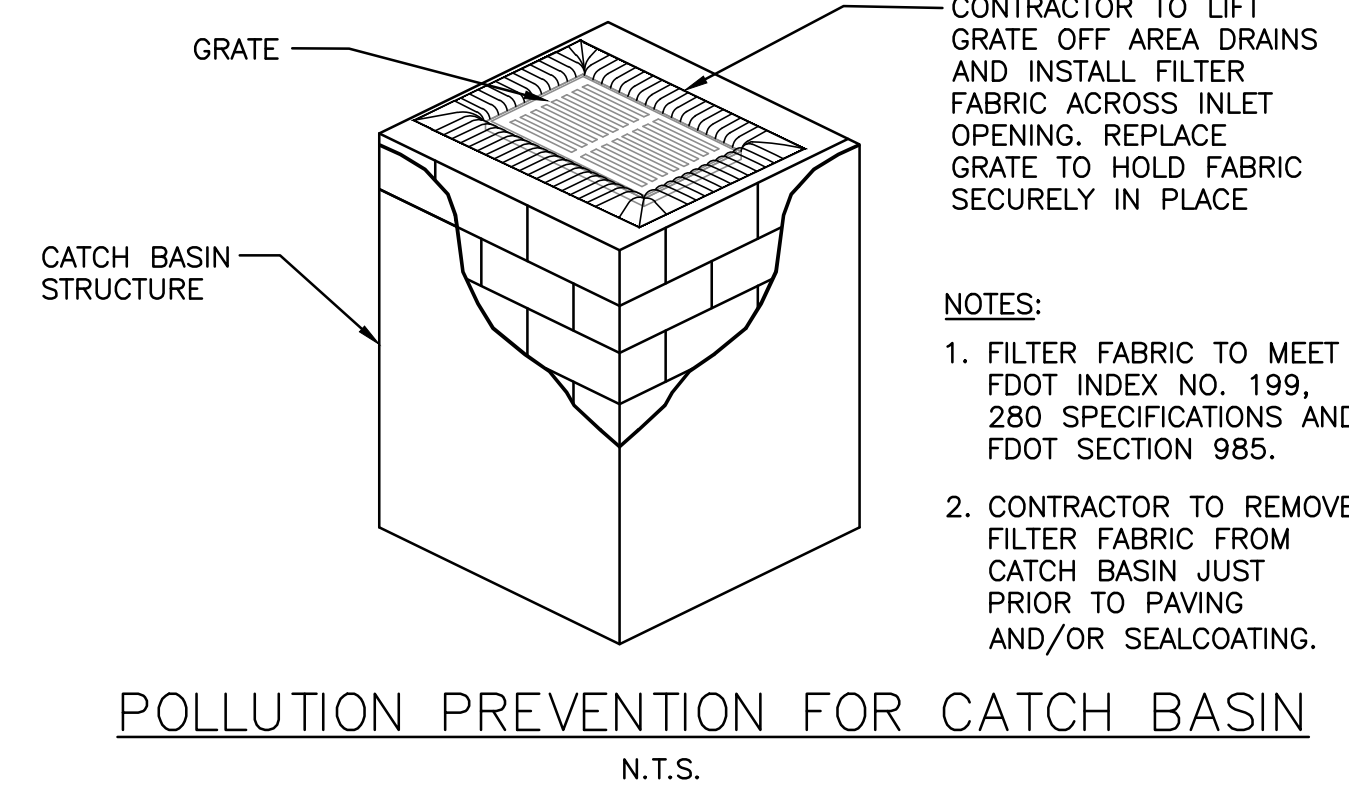


LOCATION MAP  
 NOT TO SCALE

**EROSION & SEDIMENT CONTROL PLAN**

SCALE: 1"=10'

- LEGEND**
- PROPOSED CONCRETE
  - PROPOSED ASPHALT
  - PROPOSED GRADE
  - EXISTING ELEVATION
  - PROPOSED CATCH BASIN
  - EXISTING CATCH BASIN
  - PROPOSED WATER METER
  - EXISTING WATER METER
  - PROPOSED WATER VALVE
  - PROPOSED BFP DEVICE
  - EXISTING SAN. SEWER MH
  - EXISTING FIRE HYDRANT



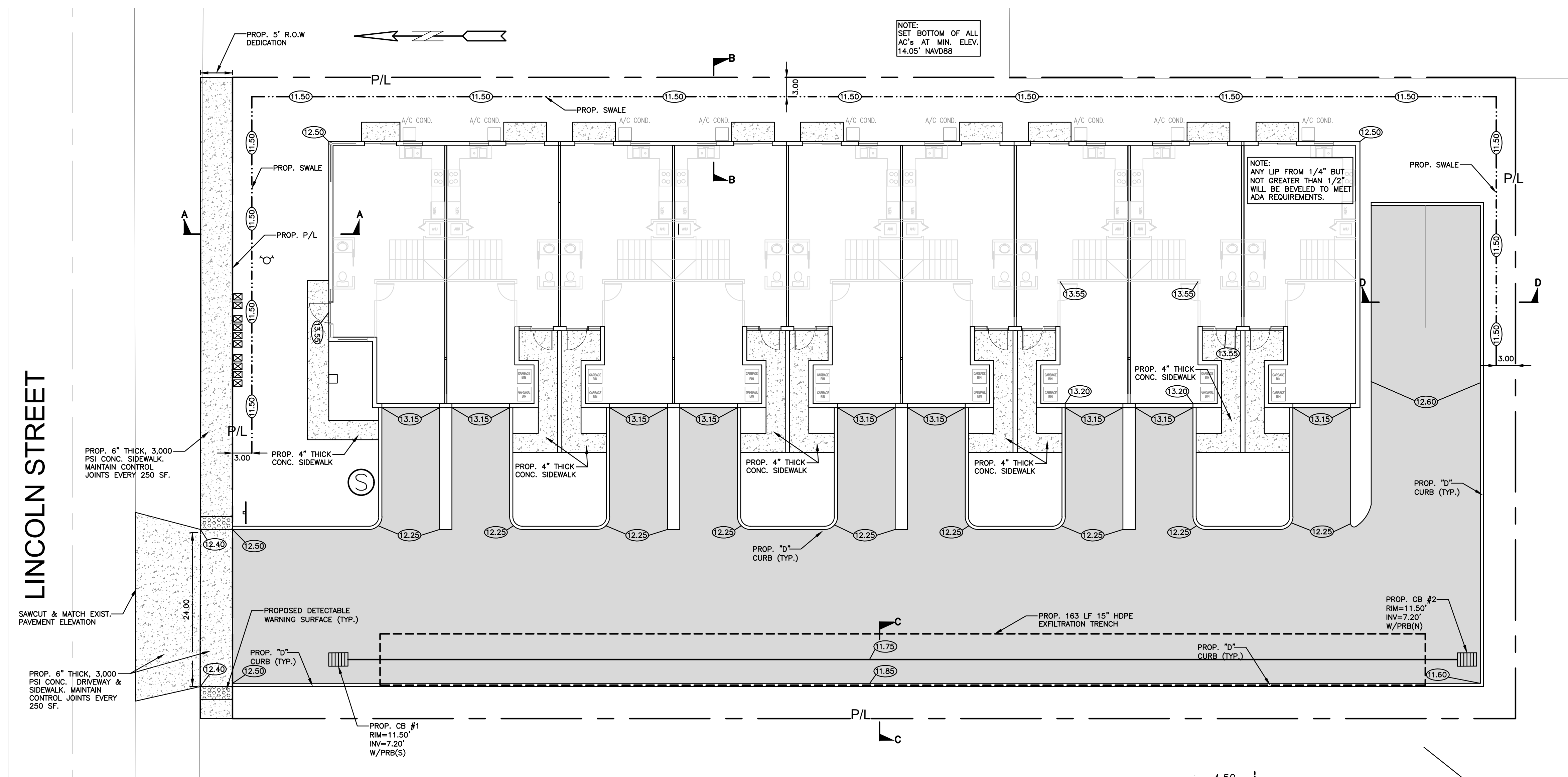
POLLUTION PREVENTION FOR CATCH BASIN  
 N.T.S.



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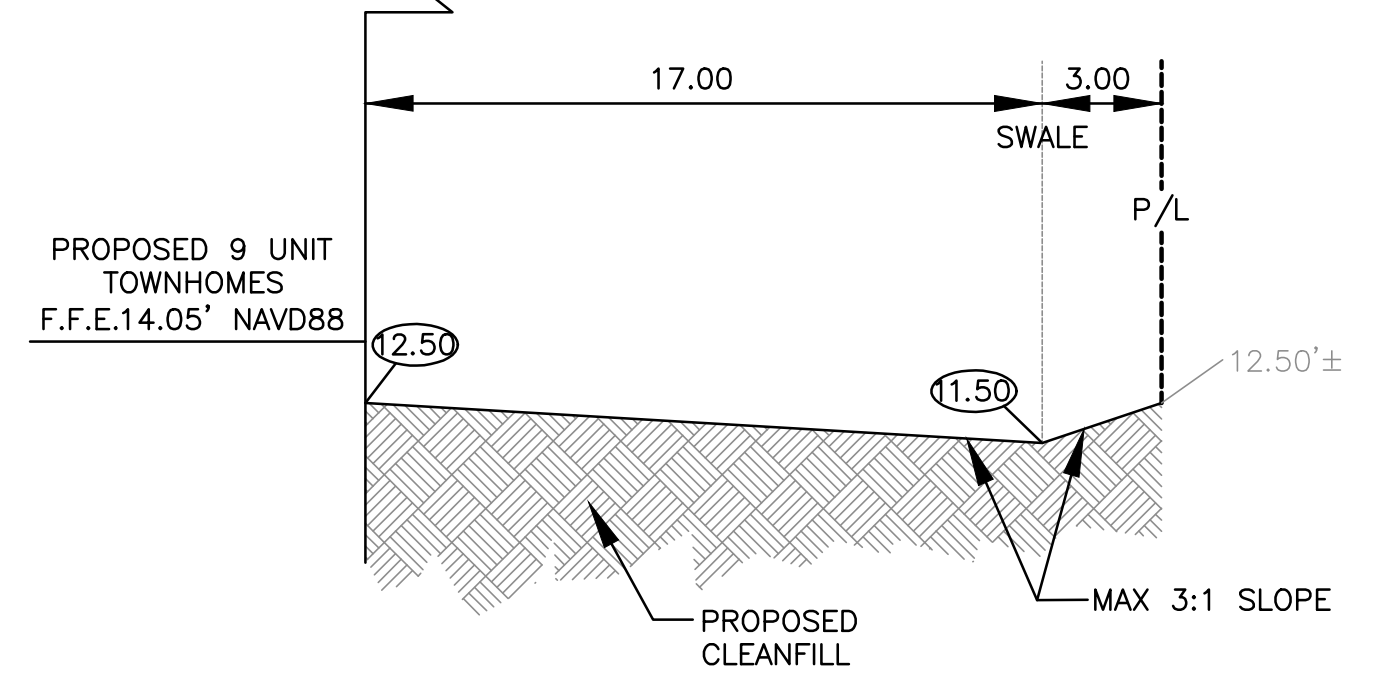
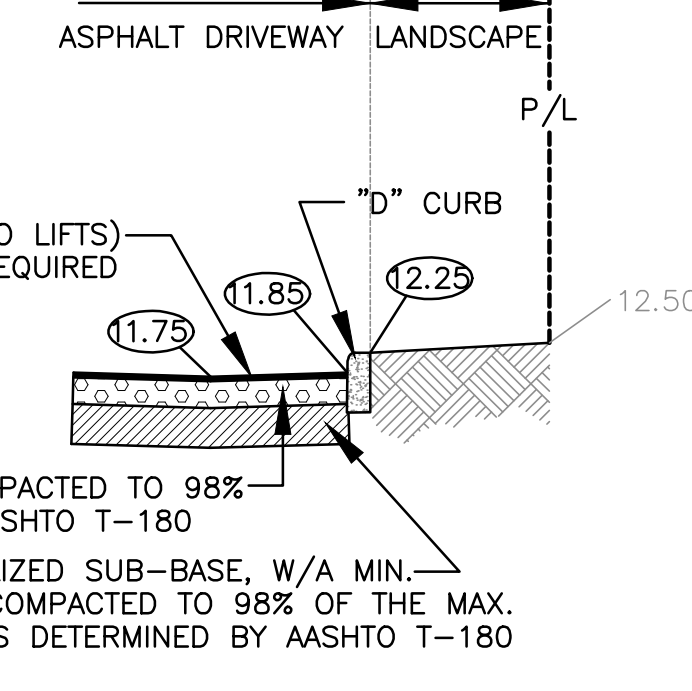
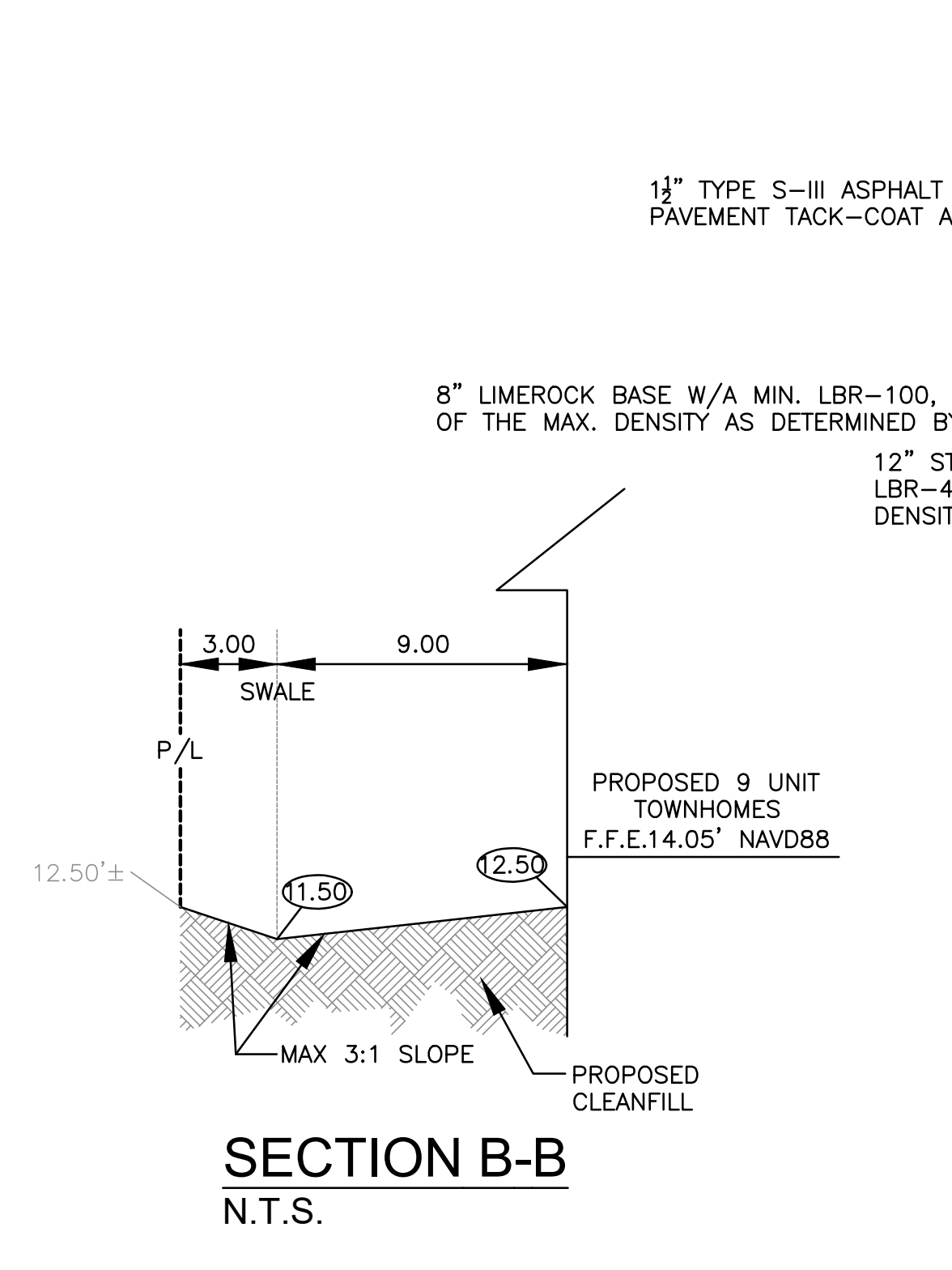
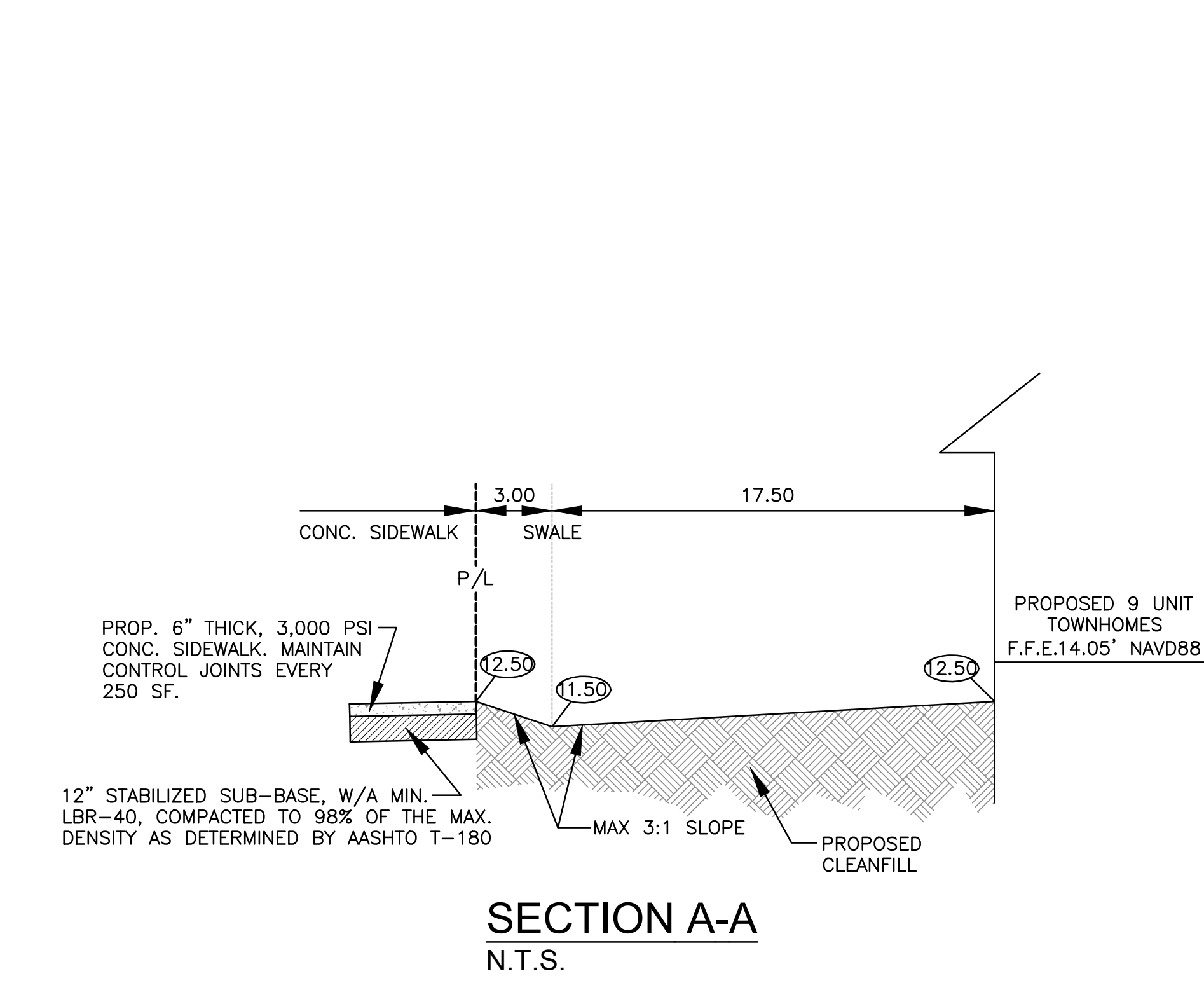
ALL ELEVATIONS ARE REFERENCED TO NAVD88 VERTICAL DATUM



NOTES:

- 1) CONTRACTOR MUST NOTIFY ZEPHYR ENGINEERING OF THE START OF CONSTRUCTION DATE PRIOR TO START OF CONSTRUCTION. ZEPHYR ENGINEERING WILL NOT CERTIFY ANY CONSTRUCTION THAT WAS NOT INSPECTED BY ZEPHYR ENGINEERING, OR ZEPHYR ENGINEERING'S AUTHORIZED REPRESENTATIVE.
- 2) PRIOR TO CONSTRUCTION, CONTRACTOR RESPONSIBLE TO FIELD VERIFY ALL EXISTING ELEVATIONS.
- 3) CONTRACTOR MUST COORDINATE PROPOSED IMPROVEMENTS SHOWN ON CIVIL PLANS WITH EXISTING SITE CONDITIONS & PROPOSED PLANS BY THE OTHER DESIGN PROFESSIONALS PRIOR TO CONSTRUCTION. CONTRACTOR MUST ALSO VERIFY THAT THERE ARE NO DISCREPANCIES BETWEEN THE WATER, SEWER & DRAINAGE PLANS THAT MAY CAUSE CONFLICTS PRIOR TO CONSTRUCTION. CONTACT ZEPHYR ENGINEERING IF DISCREPANCIES EXIST.
- 4) PRIOR TO CONSTRUCTION, CONTRACTOR RESPONSIBLE TO DOCUMENT EXISTING CONDITIONS ON AND AROUND THE PROJECT AREA, INCLUDING THE R.O.W. AND ADJACENT PROPERTIES. IT'S RECOMMENDED THAT CONTRACTOR TAKE PHOTOGRAPHS & VIDEOS TO CLEARLY DOCUMENT CONDITIONS PRIOR TO CONSTRUCTION. CONTRACTOR RESPONSIBLE TO REPAIR ALL DAMAGES CAUSED BY OR AS A RESULT OF THE PROPOSED CONSTRUCTION.
- 5) ALL ROOF DRAINS MUST BE CONNECTED TO THE ONSITE DRAINAGE SYSTEM.
- 6) CONTRACTOR TO REFER TO ARCHITECTURAL PLANS FOR SITE PLAN LAYOUT AND DIMENSIONS.
- 7) EXISTING UTILITIES SHOWN ARE BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR'S RESPONSIBLE TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR TO BE AWARE THAT THERE MAY BE SOME EXISTING UTILITIES ON OR ADJACENT TO THE PROJECT SITE THAT MAY NOT BE SHOWN ON THE CIVIL PLANS, AND CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY THOSE UTILITIES AS WELL. CONTRACTOR RESPONSIBLE FOR RELOCATION OF EXISTING UTILITIES THAT CONFLICTS WITH PROPOSED CONSTRUCTION.

LINCOLN STREET



LEGEND

	PROPOSED CONCRETE
	PROPOSED ASPHALT
	PROPOSED GRADE
	EXISTING ELEVATION
	PROPOSED CATCH BASIN
	EXISTING CATCH BASIN
	PROPOSED WATER METER
	EXISTING WATER METER
	EXISTING WATER VALVE
	PROPOSED BFP DEVICE
	EXISTING FIRE HYDRANT



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REVISIONS

NO.	DATE	DESCRIPTION
1	4-24-23	TAC REVIEW COMMENTS

**ZEPHYR ENGINEERING**  
 WILFORD ZEPHYR, P.E.  
 HOLLYWOOD, FL  
 (786) 302-7693  
 wzephyreng@gmail.com  
 CA#: 31158

9 UNIT TOWNHOMES  
 2420 LINCOLN STREET  
 HOLLYWOOD, FL

P.E.#: 78036  
 DATE: 1/25/23  
 SCALE: 1"=10'  
 SHEET NO.: C2  
 2 OF 8  
 PROJECT NO.: 23-04

GENERAL CONDITION NOTES :

ALL ELEVATIONS ARE REFERENCED TO NAVD88 VERTICAL DATUM

- THE LOCATION OF EXISTING UTILITIES AND TOPOGRAPHY HAS BEEN PREPARED FROM THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER. THIS INFORMATION IS NOT GUARANTEED AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES AND TOPOGRAPHY PRIOR TO CONSTRUCTION.
- PRIOR TO CONSTRUCTION THE CONTRACTOR IS TO NOTIFY THE FOLLOWING COMPANIES & AGENCIES AND ANY OTHERS SERVING THE AREA:  
 FLORIDA POWER & LIGHT CO., CONSTRUCTION  
 BELLSOUTH  
 COMCAST  
 TECO  
 LOCAL CITY / COUNTY ENGINEERING & UTILITY DEPARTMENTS  
 FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), AS APPLICABLE  
 UNDERGROUND UTILITIES NOTIFICATION CENTER OF FLORIDA (S.U.N.S.H.I.N.E.)

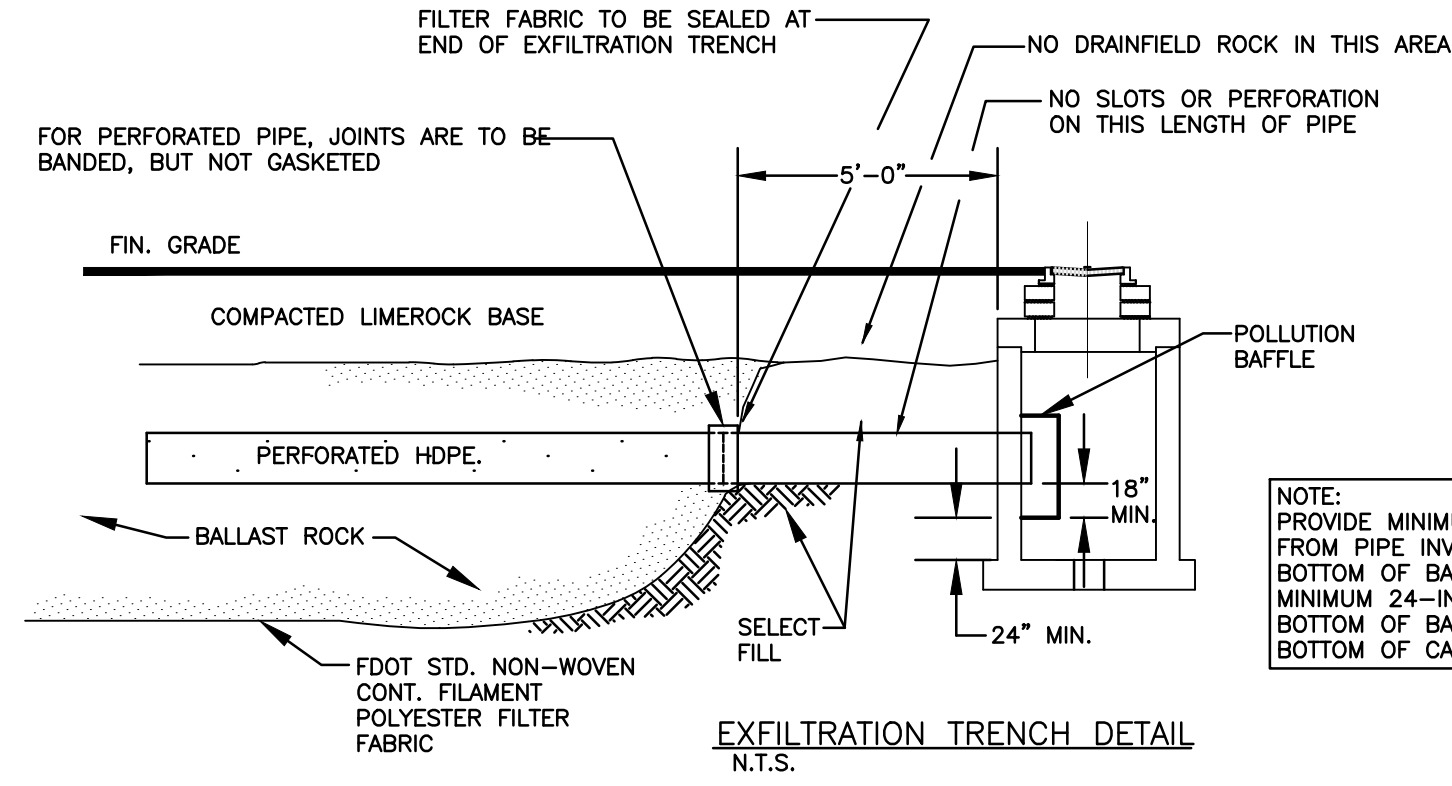
PAVING, GRADING & DRAINAGE NOTES:

- ALL UNSUITABLE MATERIALS, SUCH AS MUCK, HARDPAN, ORGANIC MATERIAL & OTHER DELETERIOUS MATERIAL AS CLASSIFIED BY AASHTO M-145, FOUND WITHIN THE ROAD & PARKING LOT AREAS SHALL BE REMOVED DOWN TO ROCK OR SUITABLE MATERIAL, & REPLACED W/ THE SPECIFIED FILL MATERIAL IN MAXIMUM 12" LIFTS COMPACTED TO NOT LESS THAN 100% MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE IN ACCORDANCE W/ AASHTO T-99. THICKNESS OF LAYERS MAY BE INCREASED PROVIDED THE EQUIPMENT & METHODS USED ARE PROVEN BY FIELD DENSITY TESTING TO BE CAPABLE OF COMPACTING THICK LAYERS TO SPECIFIED DENSITIES.
- ALL AREAS SHALL BE CLEARED & GRUBBED PRIOR TO CONSTRUCTION. THIS SHALL CONSIST OF THE COMPLETE REMOVAL & DISPOSAL OF ALL TREES, BRUSH, STUMPS, ROOTS, GRASS, WEEDS, RUBBISH & ALL OTHER OBSTRUCTION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE EXIST. GROUND TO A DEPTH OF 12". ITEMS DESIGNATED TO REMAIN OR TO BE RELOCATED OR ADJUSTED SHALL BE SO DESIGNATED ON THE DWGS.
- FILL MATERIAL SHALL BE CLASSIFIED AS A-1, A-3 OR A-2.4 IN ACCORDANCE W/ AASHTO M-145 & SHALL BE FREE FROM VEGETATION & ORGANIC MATERIAL. NOT MORE THAN 12% BY WEIGHT OF FILL MATERIAL SHALL PASS THE NO. 200 SIEVE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CERTIFIED MATERIAL TEST RESULTS TO THE ENGINEER OF RECORD PRIOR TO THE RELEASE OF FINAL CERTIFICATION BY THE ENG. TEST RESULTS MUST INCLUDE BUT MAY NOT BE LIMITED TO, DENSITIES FOR SUBGRADE & LIME ROCK, UTILITIES, EXCAVATION, ASPHALT GRADATION REPORTS, CONC. CYLINDERS, ETC...
- ALL INLETS & PIPE SHALL BE PROTECTED DURING CONSTRUCTION TO PREVENT SILTATION IN THE DRAINAGE SYSTEMS BY WAY OF TEMPORARY PLUGS & PLYWOOD OR PLASTIC COVERS OVER THE INLETS. THE ENTIRE DRAINAGE SYSTEM TO BE CLEAN OF DEBRIS PRIOR TO FINAL ACCEPTANCE.
- WHERE NEW ASPHALT MEETS OR ABUTS EXIST. ASPHALT, THE EXIST. ASPHALT SHALL BE SAWCUT TO PROVIDE A STRAIGHT EVEN LINE. PRIOR TO REMOVING CURB OR GUTTER, THE ADJACENT ASPHALT SHALL ALSO BE SAWCUT TO PROVIDE A STRAIGHT EVEN LINE.
- ALL PROPOSED GRADES (ELEVATIONS) REFER TO ASPHALT GRADES UNLESS INDICATED OTHERWISE.
- SITE GRADING SHALL BE W/IN 0.1' OF THE REQUIRED ELEVATION & ALL AREAS SHALL BE GRADED TO DRAIN.
- ALL SUBGRADE SHALL HAVE AN LBR OF 40 UNLESS OTHERWISE NOTED & SHALL BE COMPACTED TO 98% MAXIMUM DRY DENSITY PER AASHTO T-99.
- ALL LIMEROCK SHALL BE COMPACTED TO 98% PER AASHTO T-180 & HAVE NOT LESS THAN 60% OF CARBONATES OF CALCIUM & MAGNESIUM UNLESS OTHERWISE DESIGNATED. ALL LIMEROCK SHALL BE PRIMED.
- CONCRETE & ASPHALT THICKNESS SHALL BE OF TYPE DESIGNATED ON DWGS. (SEE SECTIONS)
- PLASTIC FILTER FABRIC SHALL BE MIRAFI, TYPAR OR EQUAL CONFORMING TO SECTION 985 OF THE FDOT STANDARD SPECIFICATIONS.
- CONC. SIDEWALKS SHALL BE 4" THICK ON COMPACTED SUBGRADE, W/ 1/2" EXPANSION JOINTS PLACED AT A MAXIMUM OF 75'. CRACK CONTROL JOINTS SHALL BE 5' ON CENTER. THE BACK OF SIDEWALK ELEVATION SHALL EQUAL THE CROWN OF ROADWAY, UNLESS SPECIFIED OTHERWISE BY LOCAL CODES OR INDICATED ON DWGS. ALL CONC. SIDEWALKS THAT CROSS DRIVEWAYS SHALL BE 6" THICK.
- PIPE SPECIFICATIONS : THE MATERIAL TYPE IS SHOWN ON THE DRAWINGS BY ONE OF THE FOLLOWING DESIGNATIONS -  
 RCP = REINFORCED CONC. PIPE, ASTM DESIGNATION C-76, TABLE III  
 CMP = CORRUGATED METAL (ALUM.) PIPE, TM DESIGNATION M-196  
 CMP = (SMOOTH LINED) CORRUGATED METAL (ALUM.) PIPE, ASTM DESIGNATION M-196  
 SCP = SLOTTED CONC. PIPE, FDOT SECTIONS 941 & 942  
 PVC = POLYVINYLCHLORIDE PIPE  
 PMP = PERFORATED CMP, FDOT SECTION 945  
 DIP = DUCTILE IRON PIPE  
 HDPE = HIGH DENSITY POLYETHYLENE PIPE.

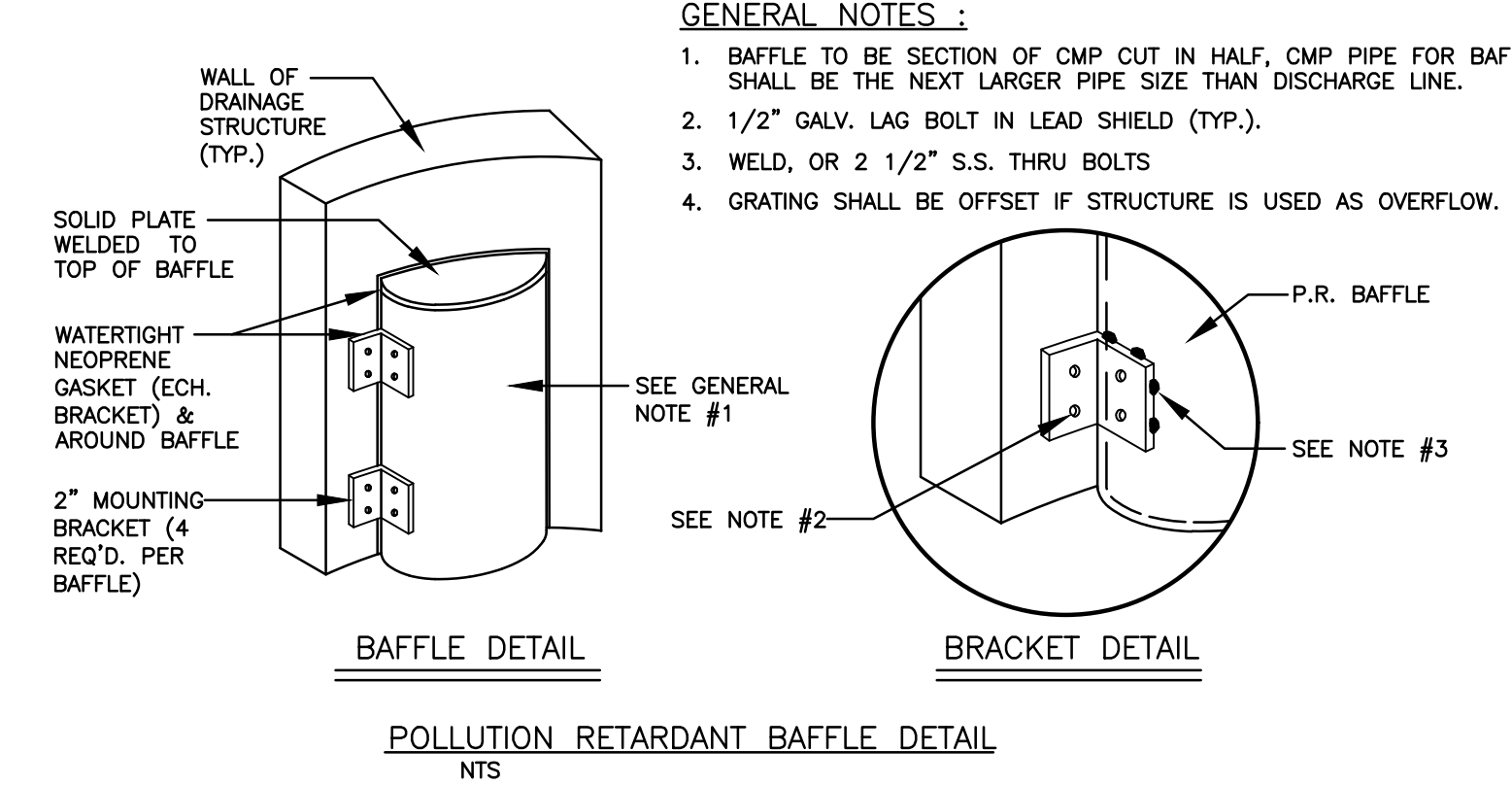
- ASPHALT -  
 BITUMINOUS MATERIAL SHALL BE ASPHALT CEMENT, VISCOSITY GRADE AC-20, CONFORMING TO THE REQUIREMENTS OF FDOT STANDARD SPECIFICATIONS, 1996 EDITION, SECTION 916-1.  
 PRIME COAT SHALL BE CUT BACK ASPHALT, GRADE RC-70 OR RC-250 CONFORMING TO THE REQUIREMENTS SPECIFIED IN AASHTO DESIGNATION M-81-75 (1982). RATE - 0.10 GALS./S.Y. TACK COAT SHALL BE EMULSIFIED ASPHALT, GRADE RS-2 CONFORMING TO THE REQUIREMENTS SPECIFIED IN AASHTO DESIGNATION M-140-82. RATE - 0.02 TO 0.08 GALS./S.Y.

DESIGN MIX SHALL CONFORM TO FDOT SECTION 331 UNLESS OTHERWISE SPECIFIED.

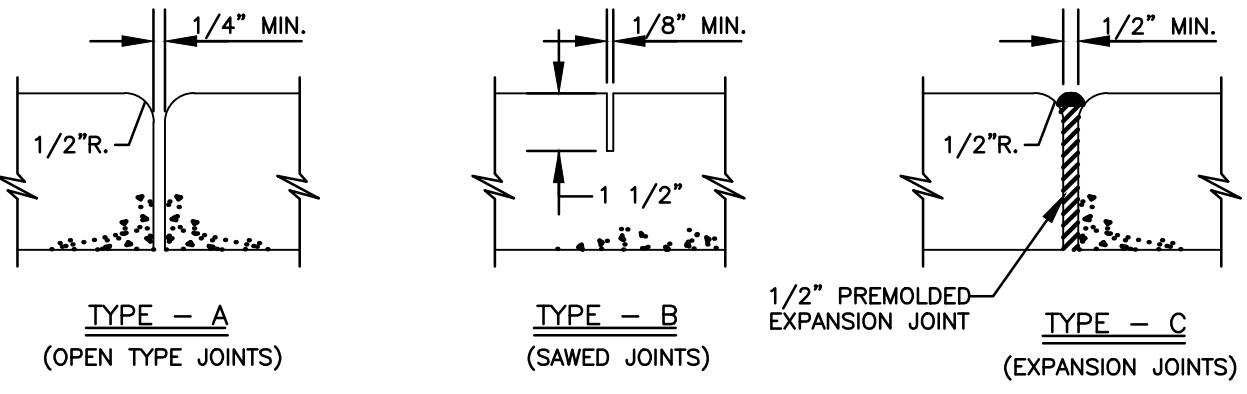
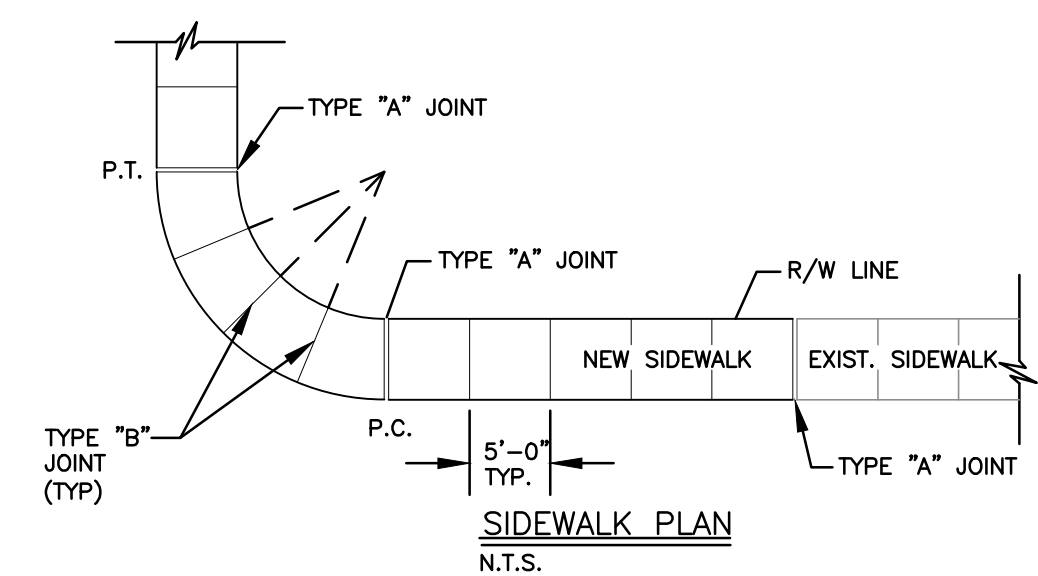
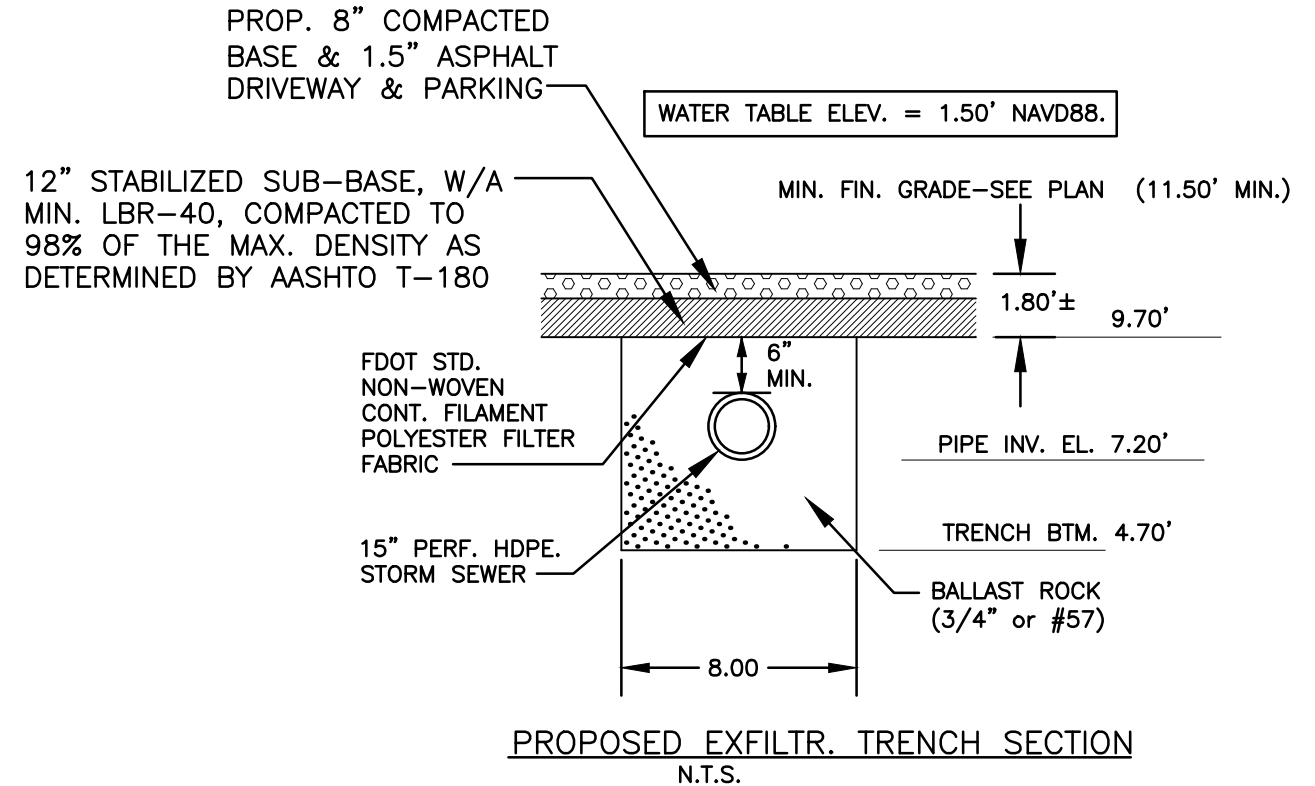
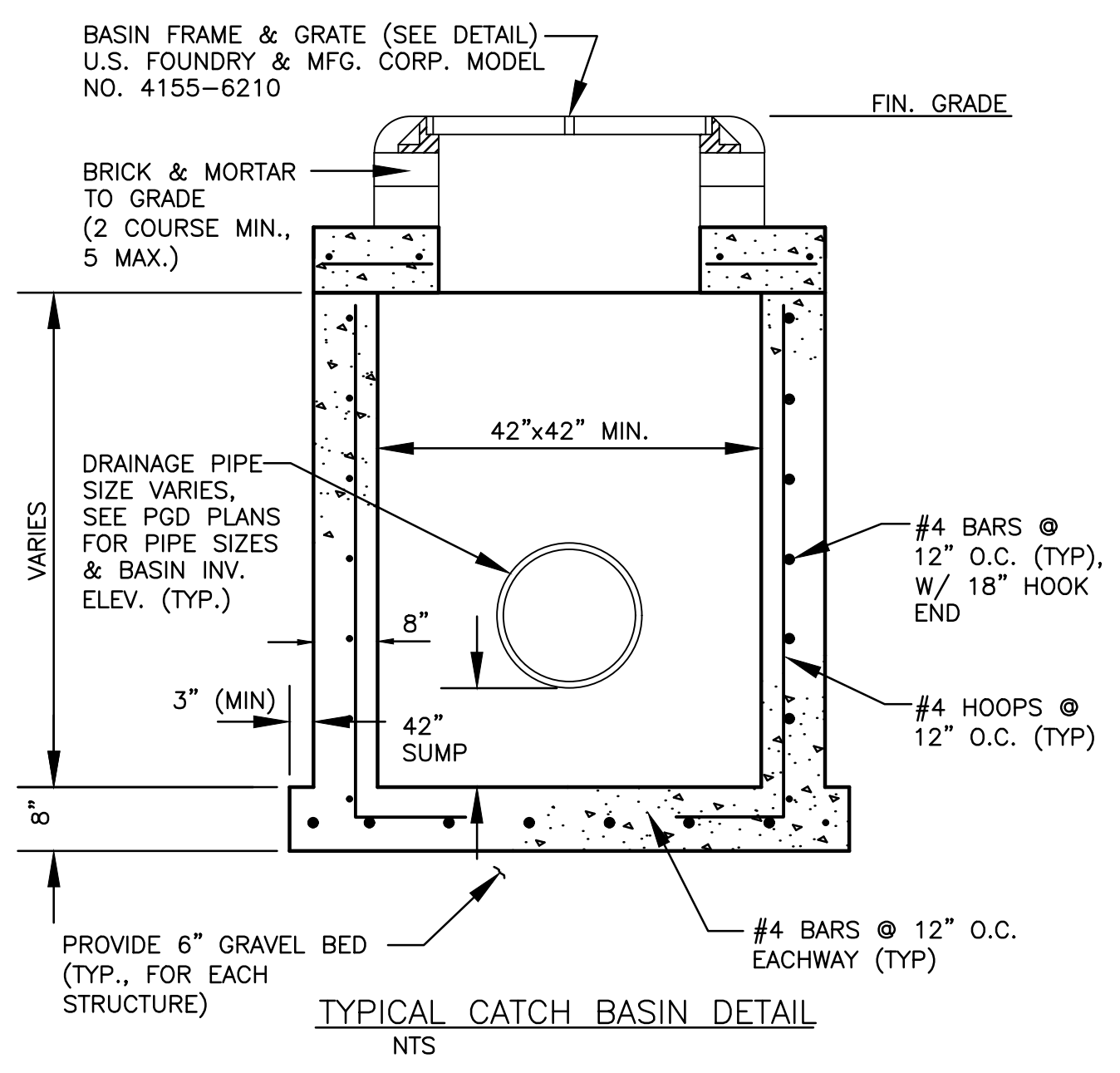
- PAVEMENT MARKING & SIGNING STANDARD NOTES :
- STOP SIGNS SHALL BE 30"x30" (R1-1), HIGH INTENSITY.
  - ALL SIGNS SHALL BE PLACED AT A HEIGHT NOT LESS THAN 5' & NOT GREATER THAN 7'. THE HEIGHT IS MEASURED FROM THE BOTTOM OF THE SIGN TO THE EDGE OF NEAREST PAVEMENT. THE SIGN POST SHALL BE PLACED A MINIMUM OF 6" TO A MAXIMUM OF 12" FROM THE ADJACENT PAVEMENT, & A MINIMUM OF 6" FROM THE CROSS TRAFFIC PAVEMENT.
  - STOP BARS SHALL BE 24" WHITE.
  - ALL SITE PAVEMENT MARKINGS SHALL BE PAINT, (UNLESS INDICATED OTHERWISE)
  - ALL PAVEMENT MARKINGS AND SIGNAGE IN THE ROAD RIGHT-OF-WAY SHALL BE THERMOPLASTIC & SHALL CONFORM TO MUTCD AND PBC TYPICAL T-P-06-001.



NOTE: PROVIDE MINIMUM 18-INCHES FROM PIPE INVERT TO BOTTOM OF BAFFLE. PROVIDE MINIMUM 24-INCHES FROM BOTTOM OF BAFFLE TO BOTTOM OF CATCH BASIN



- GENERAL NOTES :
- BAFFLE TO BE SECTION OF CMP CUT IN HALF, CMP PIPE FOR BAFFLE SHALL BE THE NEXT LARGER PIPE SIZE THAN DISCHARGE LINE.
  - 1/2" GALV. LAG BOLT IN LEAD SHIELD (TYP.).
  - WELD, OR 2 1/2" S.S. THRU BOLTS
  - GRATING SHALL BE OFFSET IF STRUCTURE IS USED AS OVERFLOW.



TYPICAL SIDEWALK THICKNESS (T)

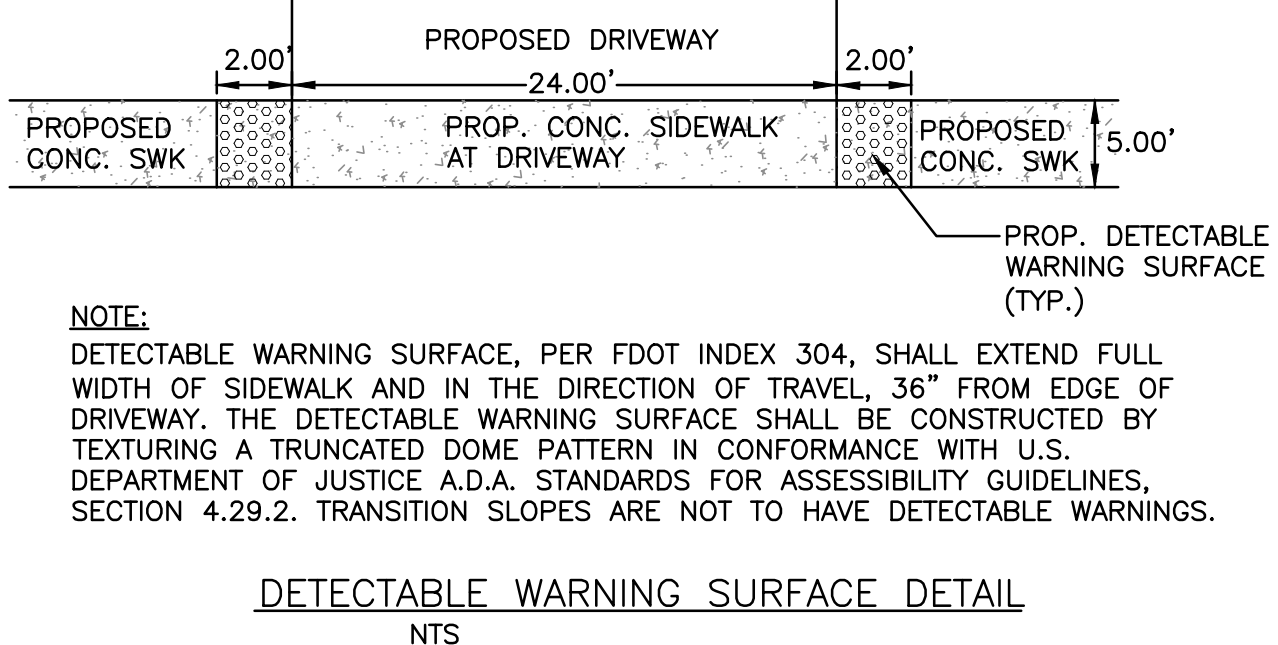
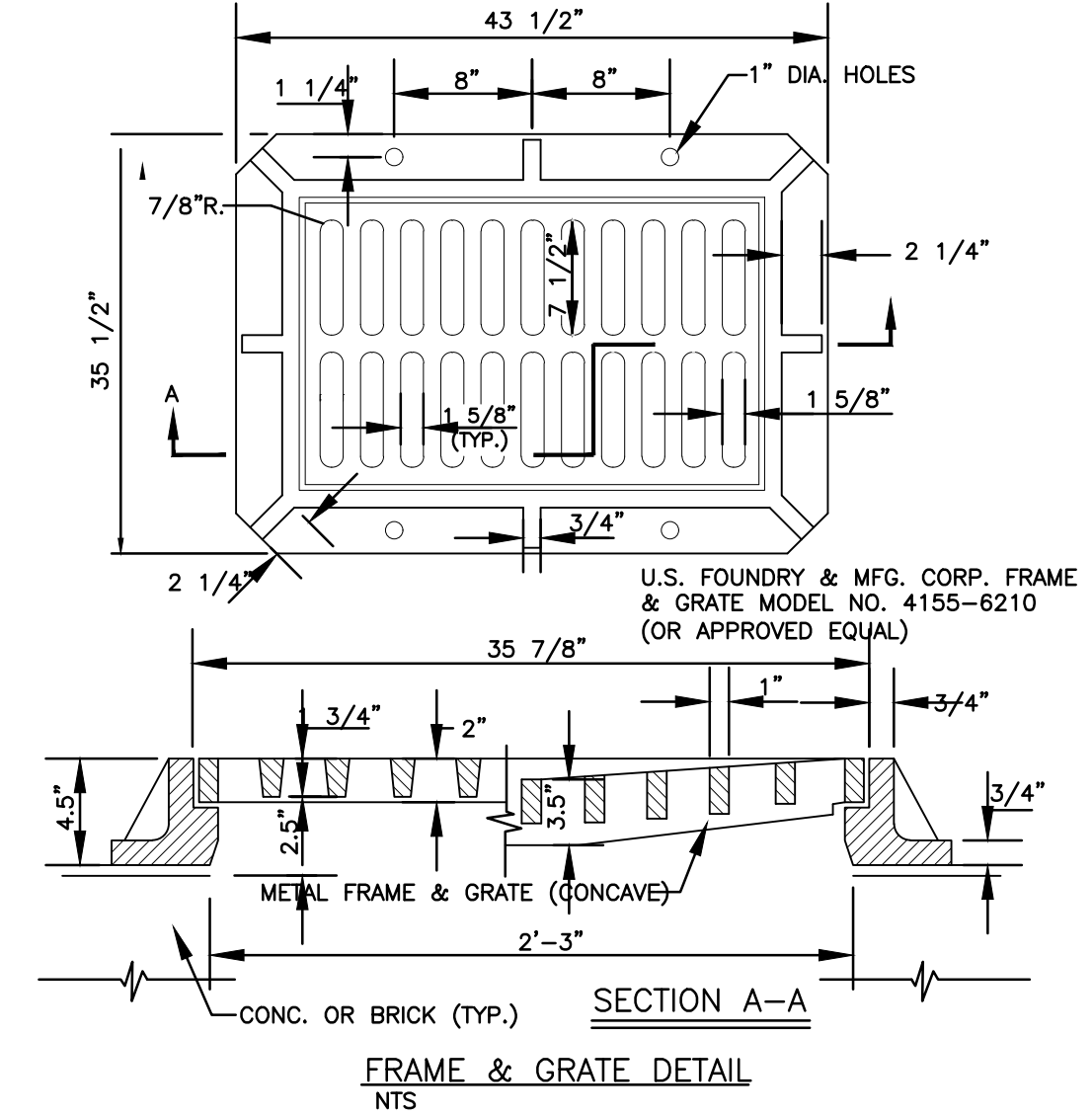
LOCATION :	T
PEDESTRIAN AREAS	4"
DRIVEWAYS & OTHER	6"

SIDEWALK JOINTS N.T.S.

TYPE	LOCATION :
"A"	P.C. & P.T. OF CURVES & TIE-IN JUNCTION OF EXIST. TO NEW SIDEWALKS.
"B"	5'-0" O.C. ON SIDEWALKS.
"C"	* WHERE SIDEWALK ABUTS CONC. CURBS & DRIVEWAYS OR SIMILAR STRUCTURES. EXPANSION JOINTS EVERY 50' O.C.

NOTES:  
 1. EXPANSION JOINTS EVERY 50' O.C.  
 2. CONC. MIN. 2500 PSI, NO STEEL IN SIDEWALK  
 3. 8" THK. SIDEWALK ACROSS DRIVEWAYS

\* INSTALLED AT THE DISCRETION OF THE ENGINEER



NOTE: DETECTABLE WARNING SURFACE, PER FDOT INDEX 304, SHALL EXTEND FULL WIDTH OF SIDEWALK AND IN THE DIRECTION OF TRAVEL, 36" FROM EDGE OF DRIVEWAY. THE DETECTABLE WARNING SURFACE SHALL BE CONSTRUCTED BY TEXTURING A TRUNCATED DOME PATTERN IN CONFORMANCE WITH U.S. DEPARTMENT OF JUSTICE A.D.A. STANDARDS FOR ACCESSIBILITY GUIDELINES, SECTION 4.29.2. TRANSITION SLOPES ARE NOT TO HAVE DETECTABLE WARNINGS.

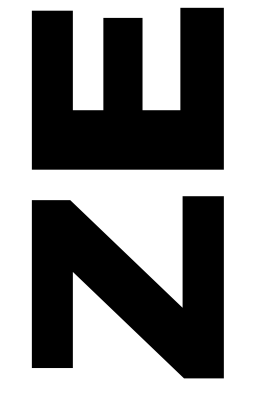


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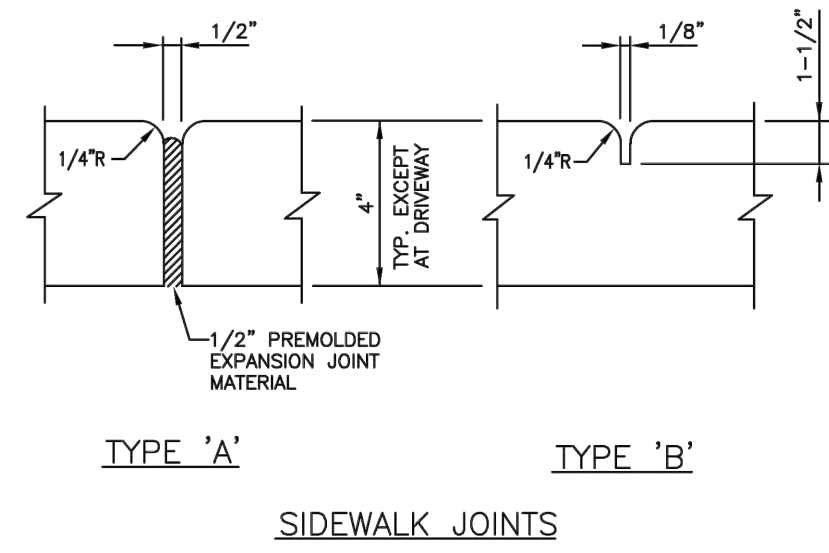
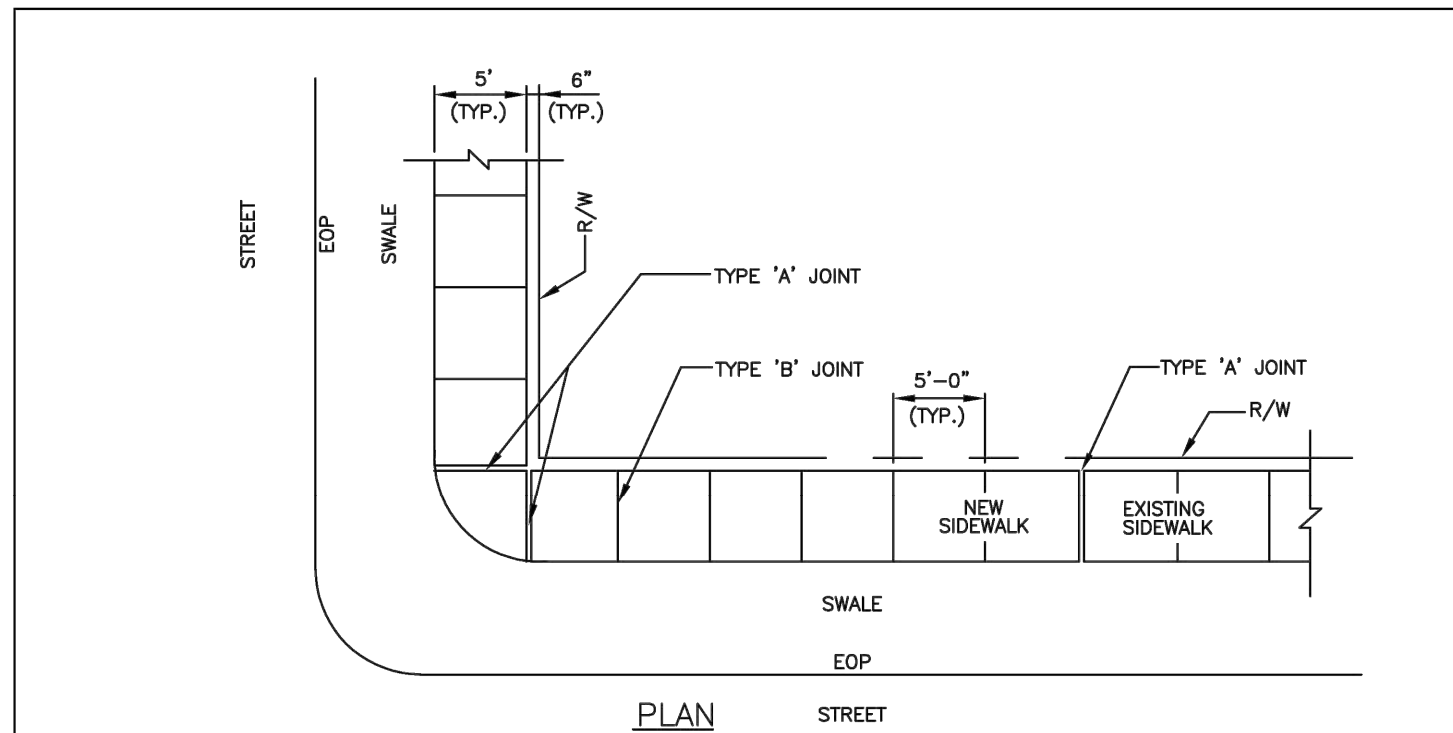
NO.	DATE	DESCRIPTION

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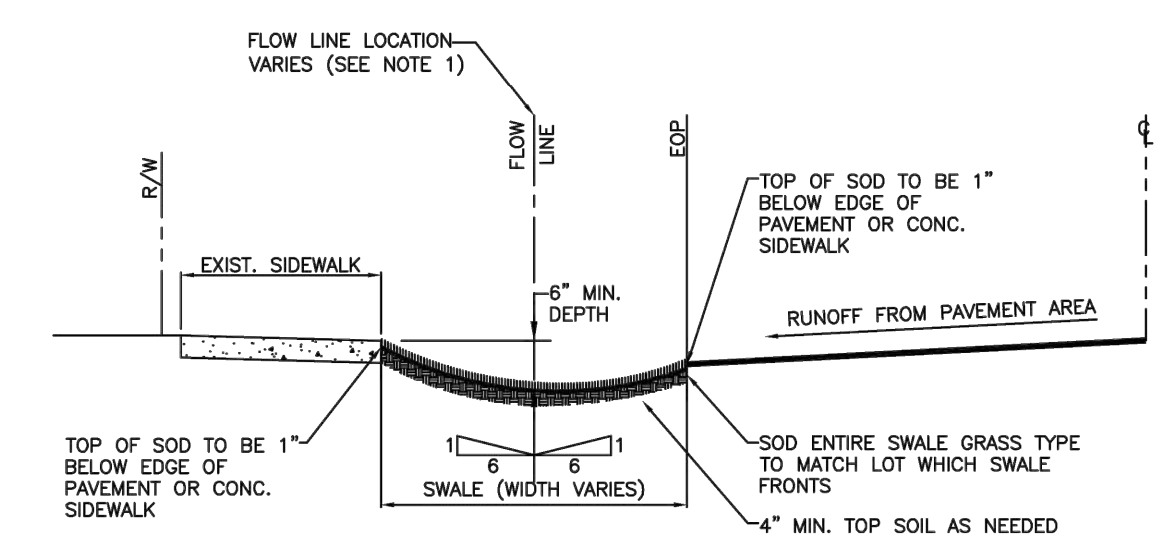
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 DATE: 1/25/23  
 SCALE: N.T.S.  
 SHEET NO.: C3  
 3 OF 8  
 PROJECT NO.: 23-04



TYPE	LOCATION
'A'	P.C. & P.T. OF CURVES; JUNCTION OF EXISTING AND NEW SIDEWALKS; WHERE SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS AND SIMILAR STRUCTURES.
'B'	5' CENTER TO CENTER ON SIDEWALKS.

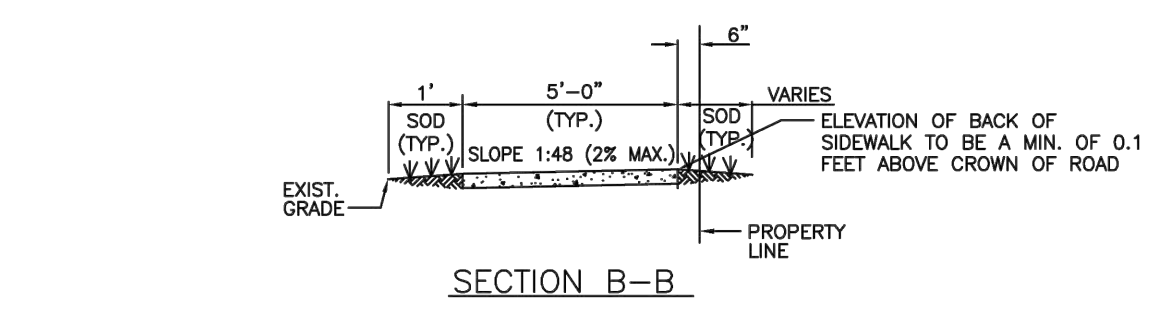
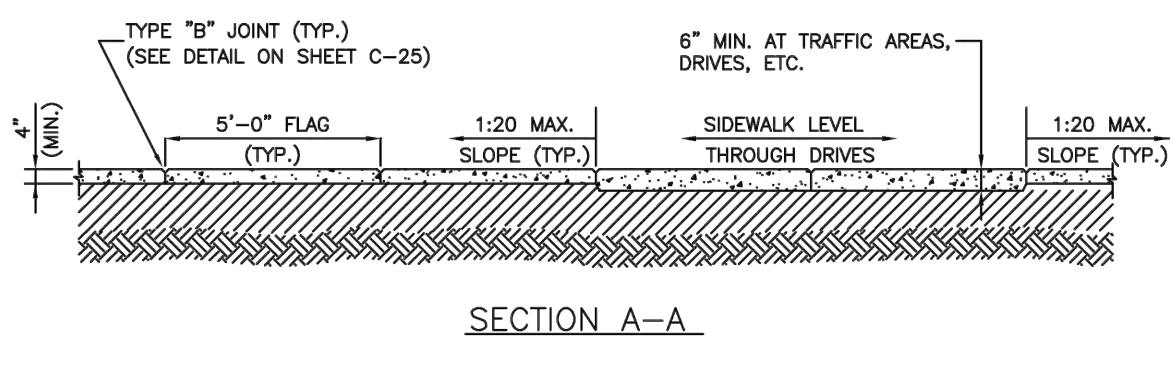
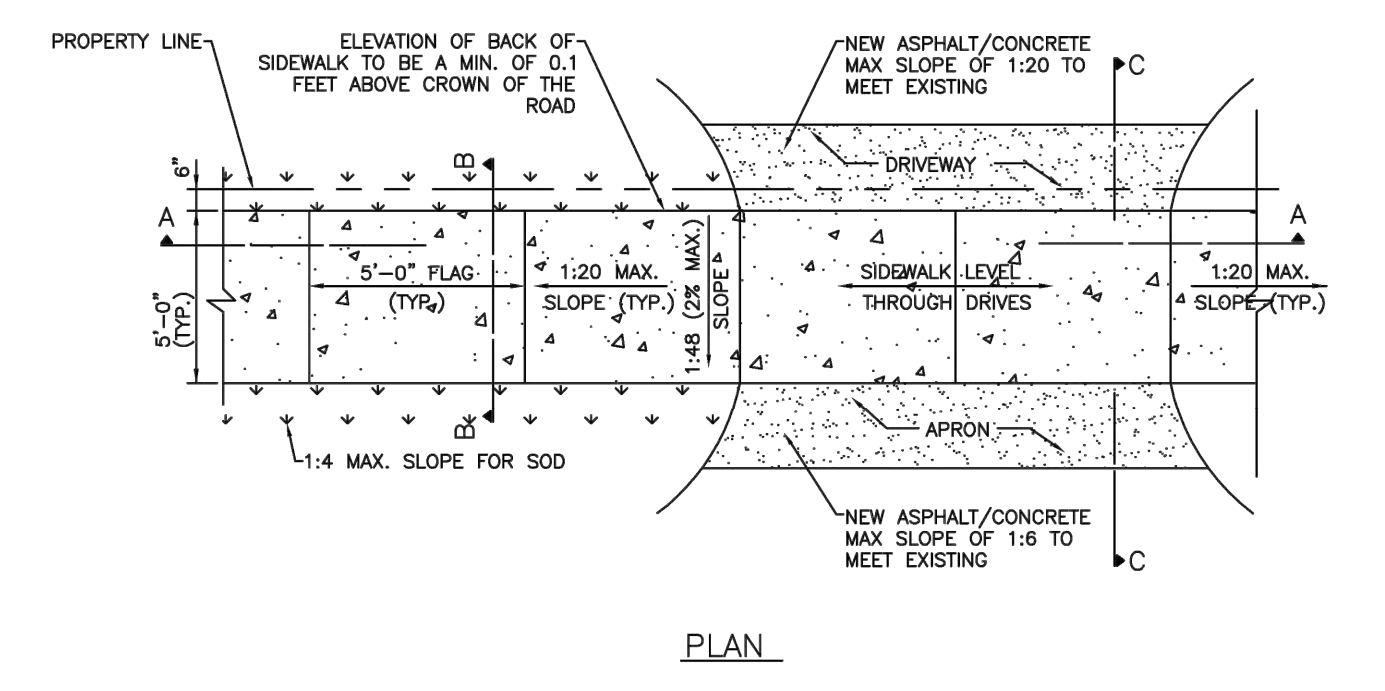
- NOTES:**
1. CONCRETE SHALL BE CLASS 1 WITH MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
  2. USE OF FIBER REINFORCED CEMENT IS PROHIBITED.
  3. SIDEWALK LONGITUDINAL AND CROSS SLOPES SHALL MEET ADA STANDARDS.
  4. SIDEWALK CURB RAMP SHALL BE PROVIDED AT ALL DESIGNATED PEDESTRIAN CROSSING AT INTERSECTIONS PER FDOT STANDARD PLANS INDEX NO. 522-002.
  5. THE VERTICAL DEVIATION OF THE COVER/LID OF A GIVEN UTILITY BOX/STRUCTURE SHALL NOT BE MORE THAN A 1/4" DIFFERENCE IN HEIGHT/ELEVATION OF THE FINISHED SIDEWALK SURFACE.
  6. 4" THICK MINIMUM (TYP.); 6" THICK AT DRIVEWAYS, EXTENDED TWO FEET ON BOTH SIDES BEYOND THE DRIVE.

	ISSUED: MAY 2023	DEPARTMENT OF DEVELOPMENT SERVICES ENGINEERING, TRANSPORTATION & MOBILITY DIVISION	REVISED: -
	DRAWN: EG	SIDEWALK CONSTRUCTION DETAILS (3 OF 3)	DRAWING NO.: C-25
	APPROVED: JG		



- NOTES:**
1. HORIZONTAL BOTTOM (FLOW LINE) OF SWALE LOCATION IS TO BE PLACED AT THE POINT WHERE 6:1 SLOPE FROM THE EDGE OF S/W AND 8:1 SLOPE FROM EDGE OF PAVEMENT MEET.
  2. TOP OF SOD ELEVATION AS SHOWN ABOVE.

	ISSUED: MAY 2023	DEPARTMENT OF DEVELOPMENT SERVICES ENGINEERING, TRANSPORTATION & MOBILITY DIVISION	REVISED: -
	DRAWN: EG	TYPICAL SWALE GRADING	DRAWING NO.: C-33
	APPROVED: JG		

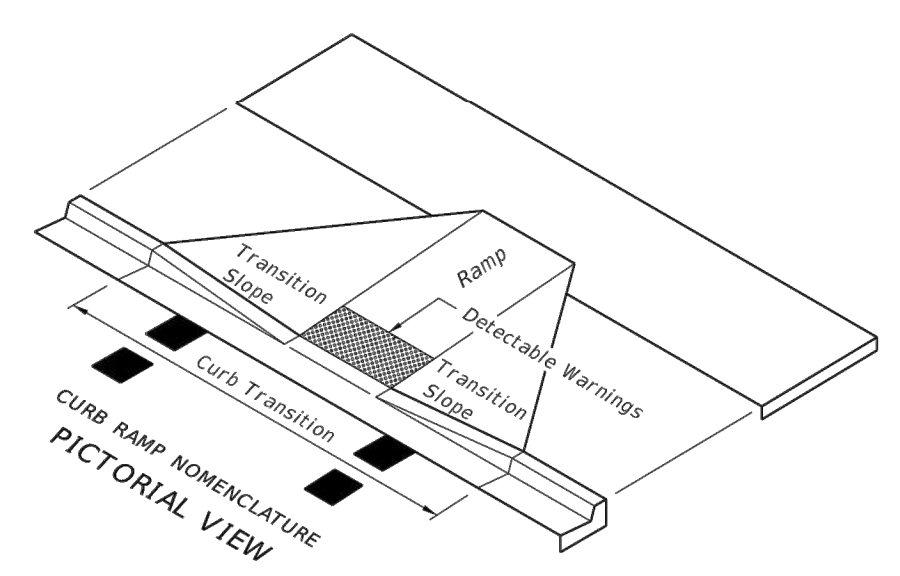


- NOTE:**
1. ALL SIDEWALK CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE ADA STANDARDS.
  2. LIGHT BRICK FINISH PERPENDICULAR TO THE DIRECTION OF THE SIDEWALK
  3. ALL SIDEWALKS CROSS SLOPES SHALL BE 1:48 (2% MAX.); AND, RUNNING SLOPES 1:20 MAX.

	ISSUED: MAY 2023	DEPARTMENT OF DEVELOPMENT SERVICES ENGINEERING, TRANSPORTATION & MOBILITY DIVISION	REVISED: -
	DRAWN: EG	SIDEWALK CONSTRUCTION DETAILS (1 OF 3)	DRAWING NO.: C-23
	APPROVED: JG		

**GENERAL NOTES**

1. Sidewalk curb ramps shall be constructed at locations that will provide continuous unobstructed pedestrian circulation path to pedestrian areas, elements and facilities within the right of way and to accessible pedestrian routes on adjacent sites. Curbed facilities with sidewalks and those without sidewalks are to have curb ramps constructed for all intersections and turnouts with curbed returns. To accommodate curb ramps, partial curb returns are to extend to the limits prescribed in Index No. 515. Ramps constructed at locations without sidewalks are to have a landing constructed at the top of each ramp, see LANDINGS FOR CURB RAMP WITHOUT SIDEWALKS.
2. When altering existing pedestrian facilities, where existing restricted conditions preclude the accommodation of a ramp slope of 1:12, a ramp slope between 1:12 and 1:10 is permitted for a rise of 6" maximum. Where compliance with the requirements for cross slope cannot be fully met, the minimum feasible cross slope shall be provided. Ramp slopes are not required to exceed 15' in length.
3. If sidewalk curb ramps are located where pedestrians must walk across the ramp, then provide transition slopes to the ramp; otherwise a sidewalk curb may be required.
4. All sidewalks, ramps, and landings with a cross slope of 0.02 shown in this Index are 0.02 maximum. All ramp slopes shown in this Index as 1:12 are 1:12 maximum. Landings shall have slopes less than or equal to 0.02 in any direction.
5. Grade breaks at the top and bottom of ramps shall be parallel to each other and perpendicular to the direction of the ramp slope.
6. Where a sidewalk curb ramp is constructed within existing curb, curb and gutter and/or sidewalk, the existing curb or curb and gutter shall be removed to the nearest joint beyond the curb transition or to the extent that no remaining section of curb or curb and gutter is less than 5' long. Existing sidewalks shall be removed to the nearest joint beyond the transition slope or to the extent that no remaining section of sidewalk is less than 5' long. For CONCRETE SIDEWALK details refer to Index 310.
7. Sidewalk curb ramp alpha-identifications are for reference purposes (plans, permits, etc.). Alpha-identifications CR-1 and CR-1 were intentionally omitted.
8. Detectable warnings shall extend the full width of the ramp and to a depth of 2'. Detectable warnings shall be constructed in accordance with Specification Section 527. For the layout of detectable warnings, refer to the TYPICAL PLACEMENT OF DETECTABLE WARNINGS details. Detectable warnings shall not be provided on transition slopes.
9. When detectable warnings are placed on a slope greater than 5%, domes shall be aligned with the centerline of the ramp; otherwise domes are not required to be aligned.
10. Detectable warnings shall be required on sidewalks at:
  - a. Intersecting roads.
  - b. Median Crossings greater than or equal to 6' in width.
  - c. Railroad Crossings.
  - d. Signalized driveways.
11. Detectable Warnings - Acceptance Criteria:
  - a. Color and texture shall be complete and uniform.
  - b. 90% of individual truncated domes shall be in accordance with the Americans with Disabilities Act Standards for Transportation Facilities, Section 705.
  - c. There shall be no more than 4 non-compliant domes in any one square foot.
  - d. Non-compliant domes shall not be adjacent to other non-compliant domes.
  - e. Surfaces shall not deviate more than 0.10" from a true plane.
12. Detectable warnings shall be installed no greater than 5' from the back of curb or edge of pavement.
13. Detectable warnings shall not be installed over grade breaks.



**LEGEND**

	Detectable Warnings
--	---------------------

LAST REVISION 07/01/13	DESCRIPTION: FDOT 2014 DESIGN STANDARDS	INDEX NO. 304	SHEET NO. 1 of 7
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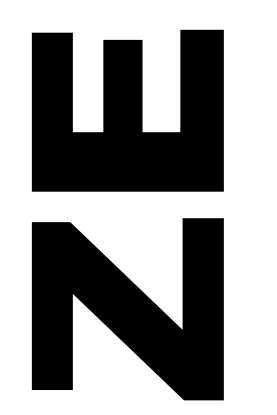
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**CIVIL DETAILS II**  
SCALE: N.T.S.

NO.	DATE	DESCRIPTION

**ZEPHYR ENGINEERING**  
WILFORD ZEPHYR, P.E.  
HOLLYWOOD, FL  
(786) 302-7693  
wzephyr@zephyr.com  
CA#: 31158

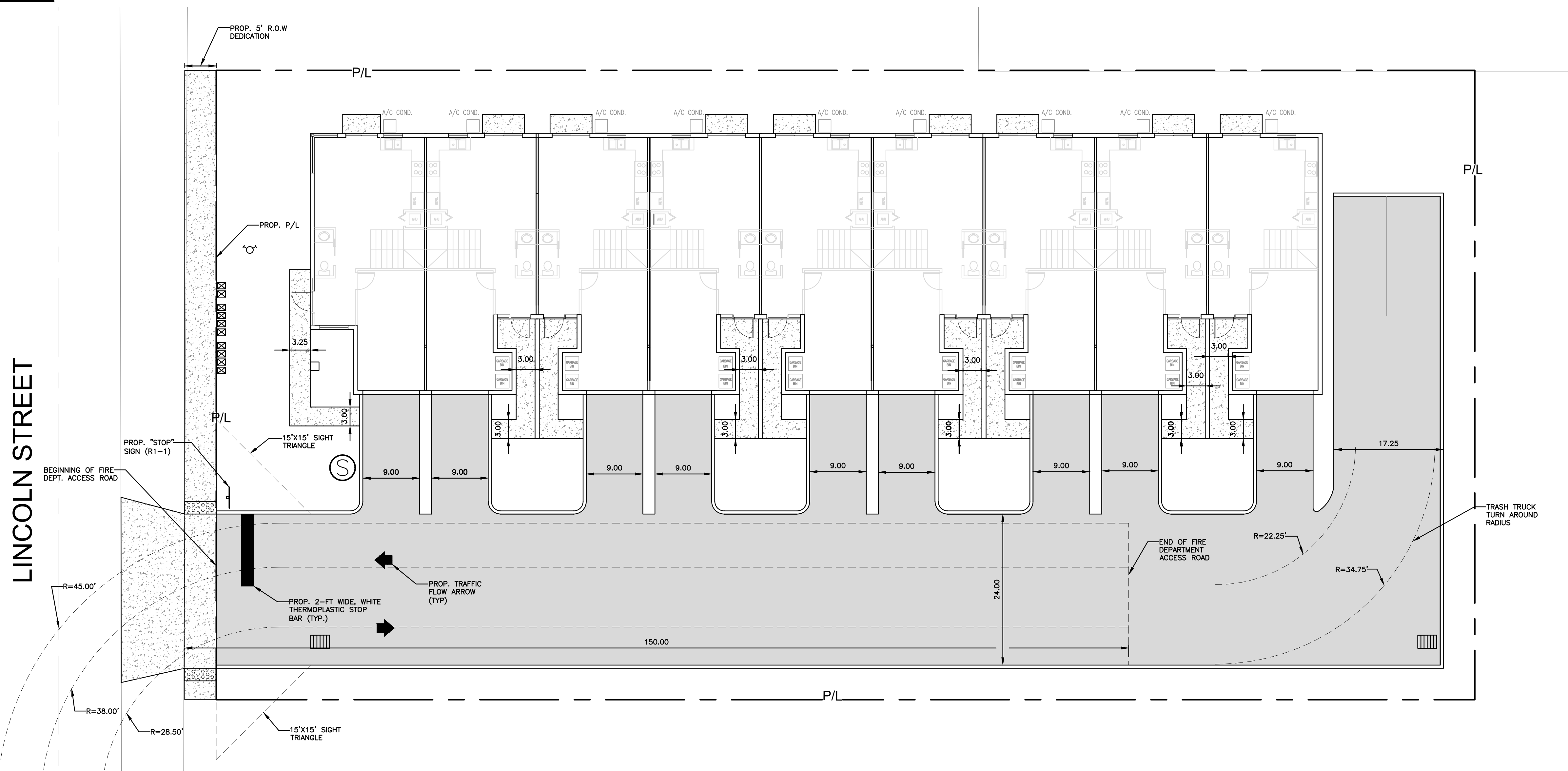


9 UNIT TOWNHOMES  
2420 LINCOLN STREET  
HOLLYWOOD, FL

P.E.#: 76036  
DATE: 1/25/23  
SCALE: N.T.S.  
SHEET NO.: C4  
4 OF 8  
PROJECT NO.: 23-04

ALL ELEVATIONS ARE REFERENCED TO NAVD88 VERTICAL DATUM

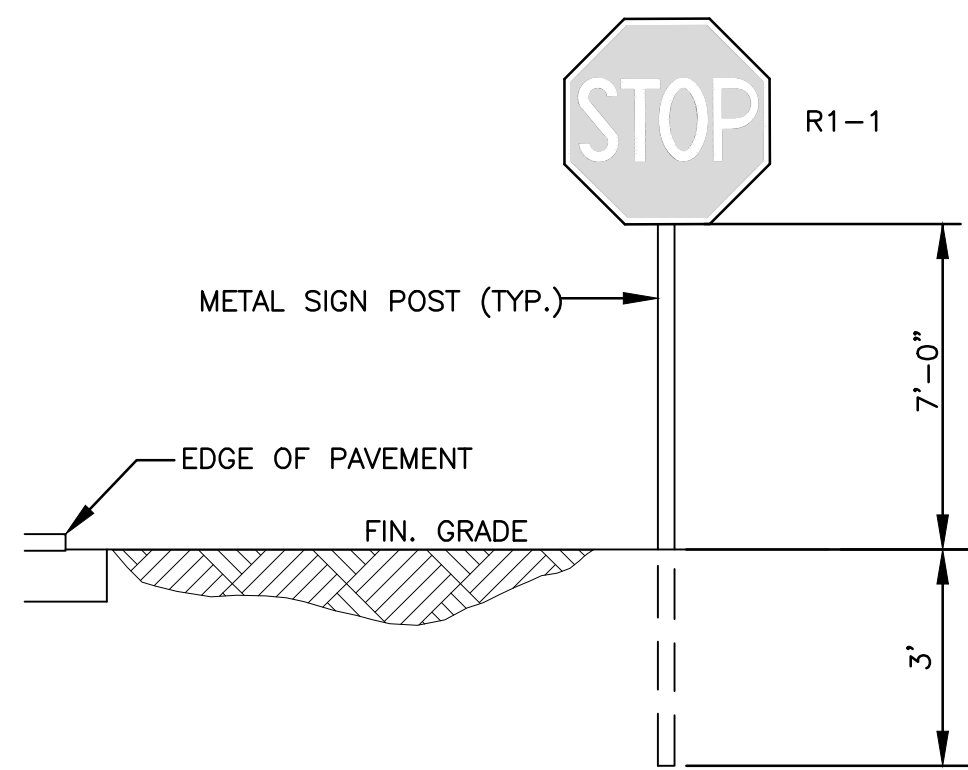
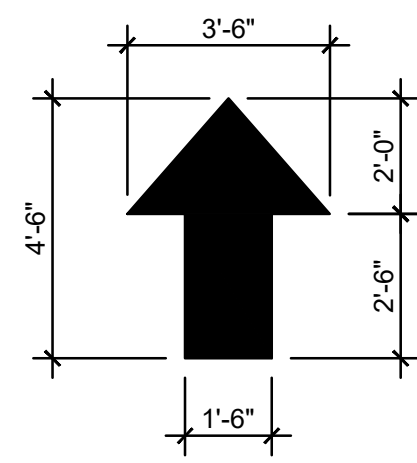
LINCOLN STREET



TRAFFIC CONTROL ARROWS: DIRECTIONAL ARROWS PAINTED ON CONCRETE - SEE LOCATIONS THIS SHEET.

PAINT FOR ARROWS: PROVIDE A MINIMUM OF 2-COATS OF D.O.T. APPROVED PAINT - UTILIZE "YELLOW" COLORED PAINT ON CONCRETE.

TRAFFIC CONTROL ARROWS DETAILS  
NTS



TYPICAL SIGN INSTALLATION DETAIL  
NTS

**LEGEND**

- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED GRADE
- EXISTING ELEVATION
- PROPOSED CATCH BASIN
- EXISTING CATCH BASIN
- PROPOSED WATER METER
- EXISTING WATER METER
- EXISTING WATER VALVE
- PROPOSED BFP DEVICE
- EXISTING SAN. SEWER MH
- EXISTING FIRE HYDRANT



7-17-23

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**PAVEMENT MARKINGS & SIGNAGE PLAN**

SCALE: 1"=10'

NO.	DATE	DESCRIPTION
1	4-13-23	TAC REVIEW COMMENTS
2	4-24-23	TAC REVIEW COMMENTS

**ZEPHYR ENGINEERING**  
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wzephyreng@gmail.com  
CA#: 31158

**ZE**

9 UNIT TOWNHOMES  
2420 LINCOLN STREET  
HOLLYWOOD, FL

P.E.#: 78036

DATE: 1/25/23

SCALE: 1"=10'

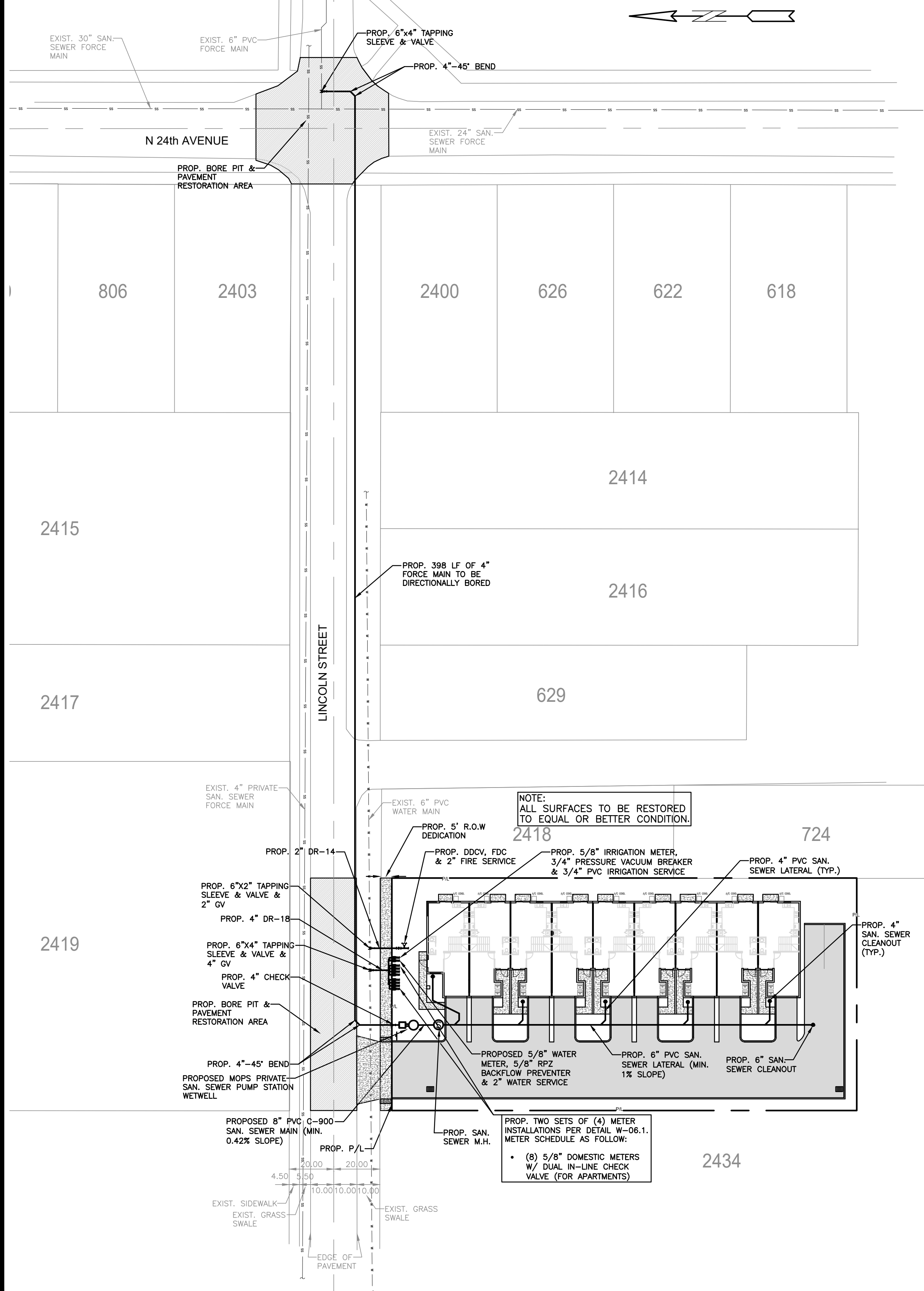
SHEET NO.:

C5

5 OF 8

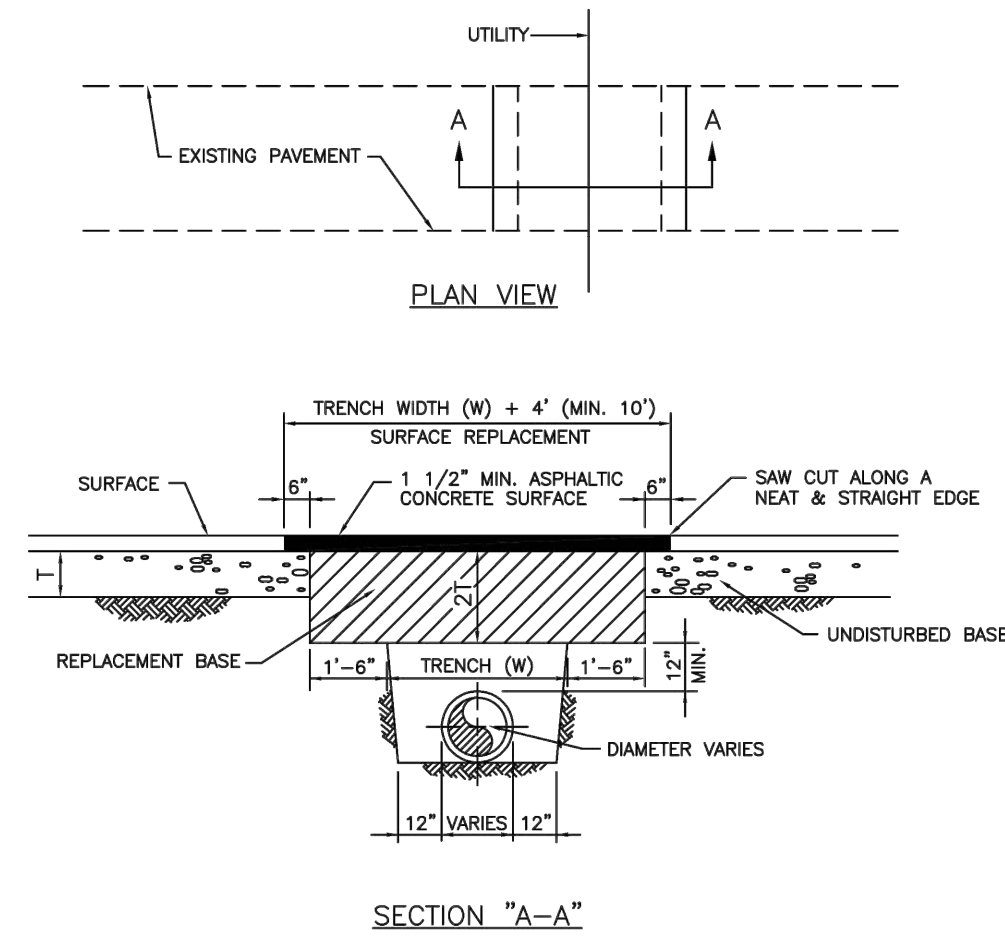
PROJECT NO.: 23-04

ALL ELEVATIONS ARE REFERENCED TO NAVD88 VERTICAL DATUM



**LEGEND**

- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED GRADE
- EXISTING ELEVATION
- PROPOSED CATCH BASIN
- EXISTING CATCH BASIN
- PROPOSED WATER METER
- EXISTING WATER METER
- EXISTING WATER VALVE
- PROPOSED BFP DEVICE
- EXISTING SAN. SEWER MH
- EXISTING FIRE HYDRANT



- NOTES:**
- REPLACED BASE MATERIAL OVER TRENCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE, MINIMUM 12", MAXIMUM 18".
  - BASE MATERIAL SHALL BE PLACED IN 4" MAXIMUM (LOOSE MEASUREMENT) LAYERS AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO 98% OF MAXIMUM DENSITY, PER ASTM D 1557.
  - ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
  - SURFACE TREATED PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED.
  - SURFACE MATERIAL SHALL BE CONSISTENT WITH THE EXISTING SURFACE.
  - BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100 AND A MINIMUM CARBONATE CONTENT OF 70%.
  - IF THE TRENCH IS FILLED TEMPORARILY, IT SHALL BE COVERED WITH A 2" ASPHALTIC CONCRETE PATCH TO KEEP THE FILL MATERIAL FROM RAVELING UNTIL REPLACED WITH A PERMANENT PATCH.
  - MINIMUM PAVEMENT RESTORATION WIDTH IS 10'.

	ISSUED: MAY 2023	DEPARTMENT OF DEVELOPMENT SERVICES ENGINEERING, TRANSPORTATION & MOBILITY DIVISION	REVISED: -
	DRAWN: EG	FLEXIBLE PAVEMENT RESTORATION PERPEND. UTILITY INSTALLATION	DRAWING NO.: C-31
	APPROVED: JG		

**SEWER NOTES:**

- THE MINIMUM DEPTH OF COVER OVER D.I.P. SANITARY SEWER GRAVITY OR FORCE MAINS IS 30". THE MINIMUM DEPTH OF COVER OVER PVC SANITARY SEWER OR FORCE MAINS IS 36".
- ALL CONNECTIONS TO EXISTING MAINS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- LEAKAGE TESTS AND ALIGNMENT (LAMPING) TESTS SHALL BE PERFORMED ON ALL NEW SEWER LINES UP TO THE CONNECTION POINT WITH THE EXISTING SEWER SYSTEM. THESE TESTS SHALL BE REQUESTED AND PAID FOR BY THE CONTRACTOR.
- LAMPING TESTS SHALL BE PERFORMED ON GRAVITY SEWERS FROM MANHOLE TO MANHOLE UP TO AND INCLUDING THE POINT OF CONNECTION TO THE EXISTING SEWER SYSTEM.
- LEAKAGE TESTS SHALL BE PERFORMED ON ALL SEGMENTS OF A GRAVITY SEWER SYSTEM, INCLUDING SERVICE LATERALS AND MANHOLES, FOR A CONTINUOUS PERIOD OF NO LESS THAN 2 HOURS. AT THE END OF THE TEST, THE TOTAL MEASURED LEAKAGE SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM, WITH ZERO ALLOWABLE LEAKAGE FOR LATERALS AND MANHOLES. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET ON THE SECTION BEING TESTED.
- FORCE MAINS SHALL BE PRESSURE-TESTED IN ACCORDANCE WITH RULE 62-555.330 (FAC). THE PRESSURE TEST SHALL CONSIST OF HOLDING A TEST PRESSURE OF 150 PSI ON THE PIPELINE FOR A CONTINUOUS PERIOD OF 2 HOURS THE MAXIMUM ALLOWABLE LEAKAGE SHALL BE DETERMINED BY THE FOLLOWING FORMULA:  
$$L = \frac{S \times D \times \sqrt{P}}{148,000}$$

WHERE:  
L = ALLOWABLE LEAKAGE FOR SYSTEM IN GALLONS PER HOUR  
D = PIPE DIAMETER IN INCHES  
S = LENGTH OF LINES IN LINEAL FEET  
P = AVERAGE TEST PRESSURE IN PSI
- CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING CONFLICTS WITH FORCE MAINS PLACED AT MINIMUM COVER. IN CASE OF CONFLICT, FORCE MAIN SHALL BE LOWERED TO PASS UNDER CONFLICTS WITH 12" MINIMUM SEPARATION FROM WATER MAINS AND 6" MINIMUM SEPARATION FROM OTHER UTILITIES. NO ADDITIONAL PAYMENT SHALL BE DUE TO CONTRACTOR FOR LOWERING THE MAIN OR THE ADDITIONAL FITTINGS USED THEREON.
- WHENEVER IT IS NECESSARY, IN THE INTEREST OF SAFETY, TO BRACE THE SIDES OF A TRENCH, THE CONTRACTOR SHALL FURNISH, PUT IN PLACE AND MAINTAIN SUCH SHEETING OR BRACING AS MAY BE NECESSARY TO SUPPORT THE SIDES OF THE EXCAVATION TO ENSURE PERSONNEL SAFETY, AND TO PREVENT MOVEMENT WHICH CAN IN ANY WAY DAMAGE THE WORK OR ENDANGER ADJACENT STRUCTURES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SEQUENCE, METHODS AND MEANS OF CONSTRUCTION, AND FOR THE IMPLEMENTATION OF ALL OSHA AND OTHER SAFETY REQUIREMENTS.

	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	SANITARY SEWER MAIN CONSTRUCTION NOTES	DRAWING NO. S-01
	APPROVED: XXX		

**NOTE:**  
WATER SUPPLY AND ANY NEW HYDRANTS SHALL BE IN PLACE PRIOR TO ACCUMULATION OF COMBUSTIBLE MATERIALS PER NFPA 1 (2018 Ed.) SECTION 16.4.3.1.1.

**NOTE:**  
UNDERGROUND FIRE MAIN WORK WILL BE COMPLETED BY A CONTRACTOR HOLDING A CLASS III, OR V LICENSE AS DEFINED BY FLORIDA STATUTE 633.102.

**WATER & SEWER DEMAND CALCULATIONS:**

PROJECT INFO:

- 9 RESIDENTIAL UNITS

**WATER DEMAND**  
(9 RESIDENTIAL UNITS)X(141 GPD/UNIT)=1,269 GPD

**WASTEWATER DEMAND**  
(9 RESIDENTIAL UNITS)X(100 GPD/UNIT)=900 GPD

(PER BROWARD COUNTY WATER & WASTEWATER ENGINEERING DIVISION'S GUIDELINE FOR DETERMINING ABILITY TO PROVIDE POTABLE WATER & WASTEWATER SERVICE AND EQUIVALENT RESIDENTIAL UNIT FACTORS PUBLICATIONS)



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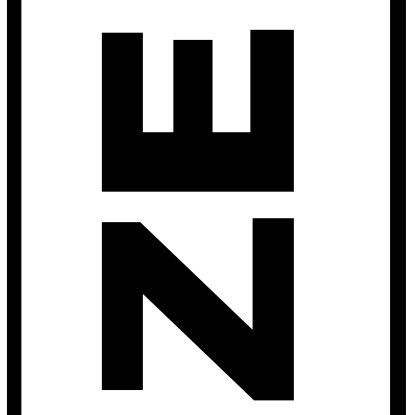
**WATER & SEWER PLAN & DETAILS**

SCALE: 1"=30'

**REVISIONS**

NO.	DATE	DESCRIPTION
1	4-24-23	TAC REVIEW COMMENTS

**ZEPHYR ENGINEERING**  
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9 UNIT TOWNHOMES  
2420 LINCOLN STREET  
HOLLYWOOD, FL

P.E.#: 76036

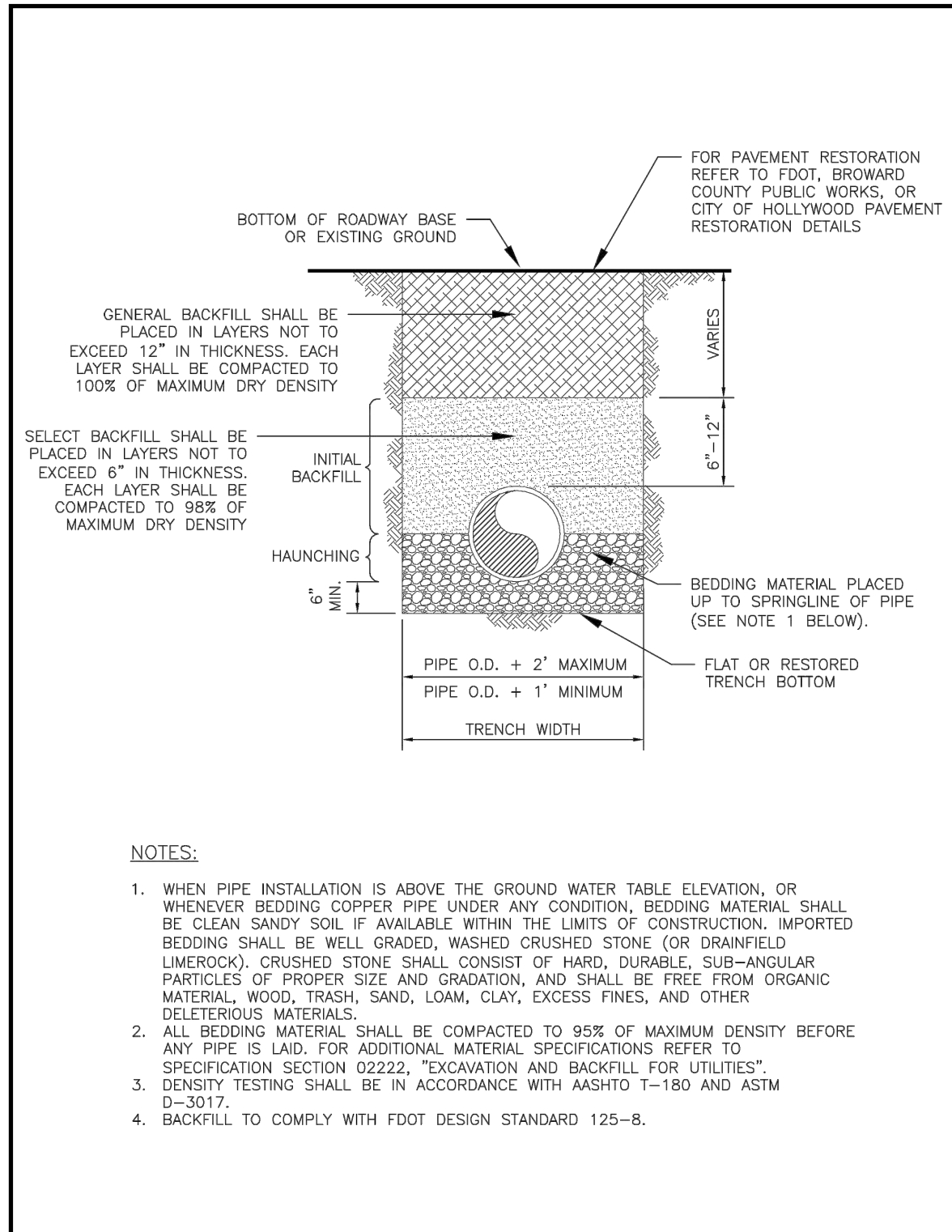
DATE: 1/25/23

SCALE: 1"=30'

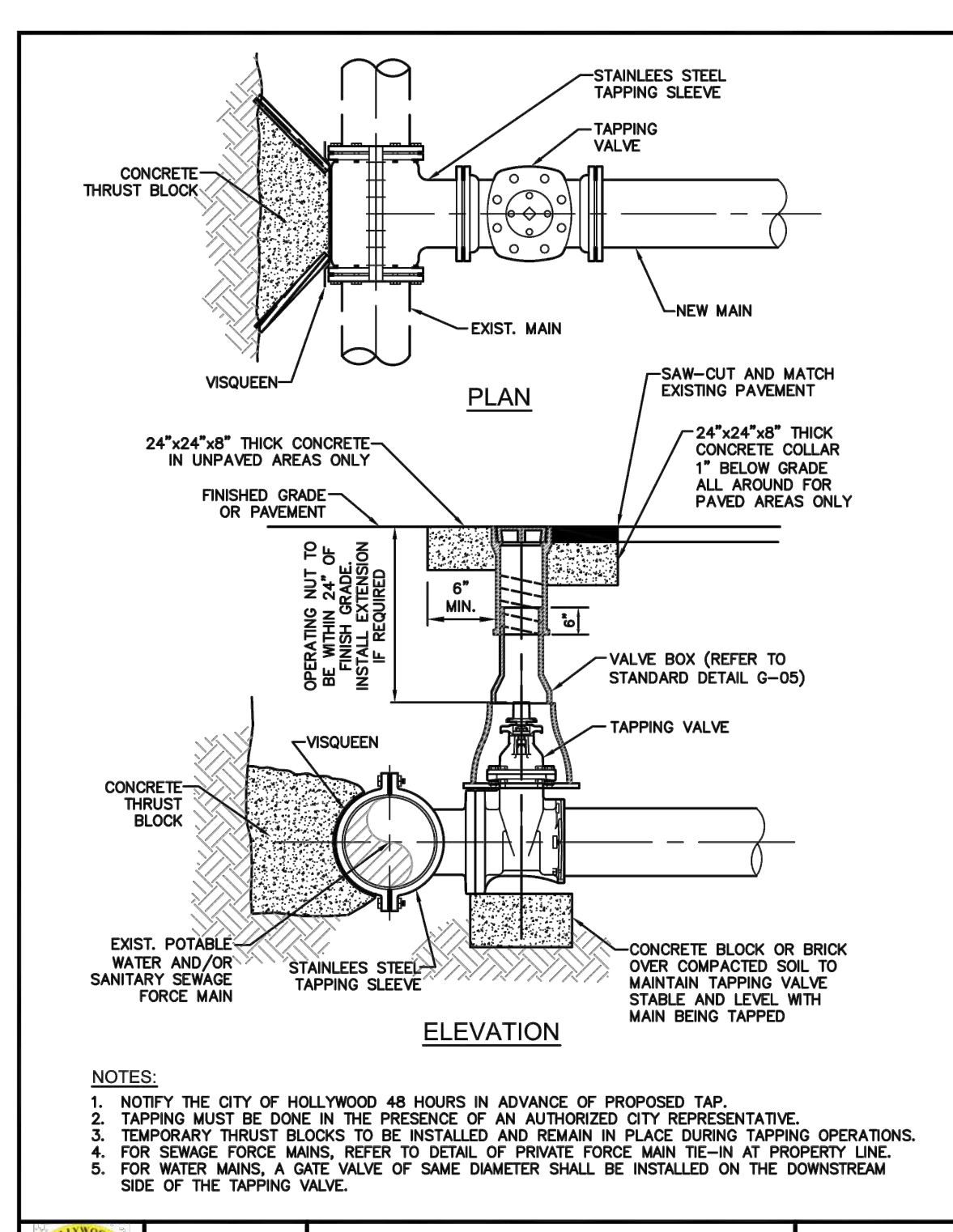
SHEET NO.:  
C5  
6 OF 8

PROJECT NO.: 23-04

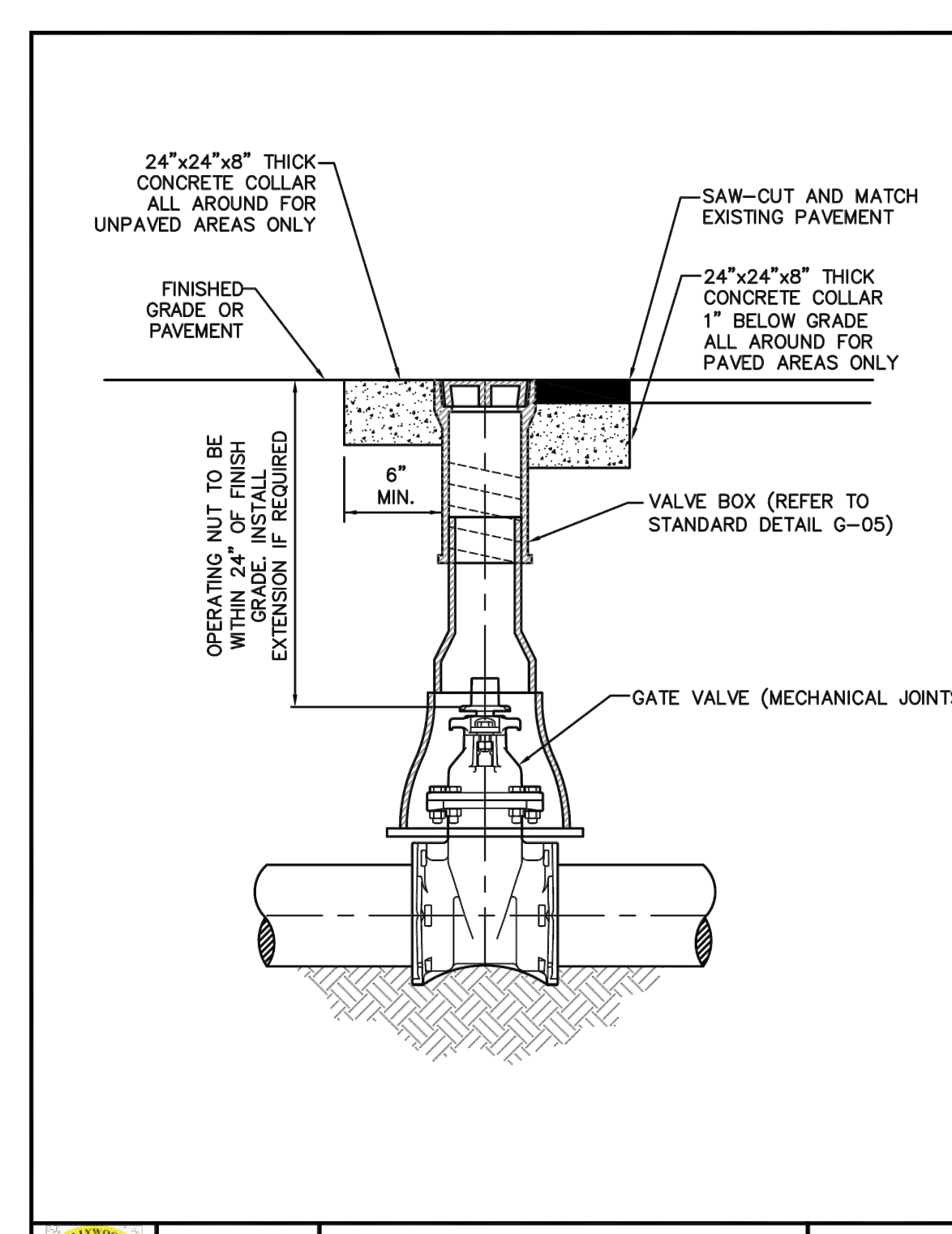




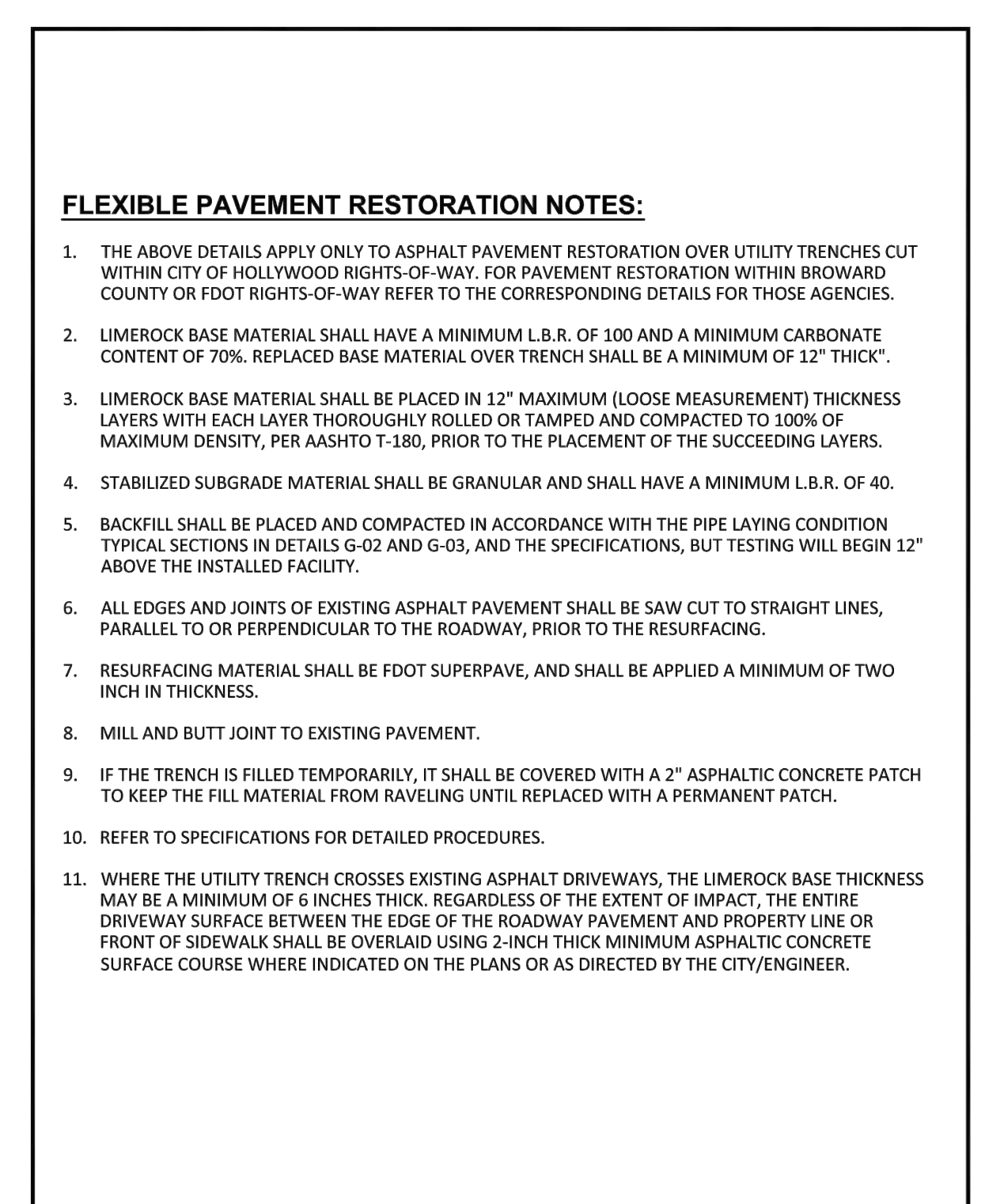
ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
DRAWN: EAM	PIPE LAYING CONDITION TYPICAL SECTION (P.V.C.)	DRAWING NO. G-03
APPROVED: XXX		



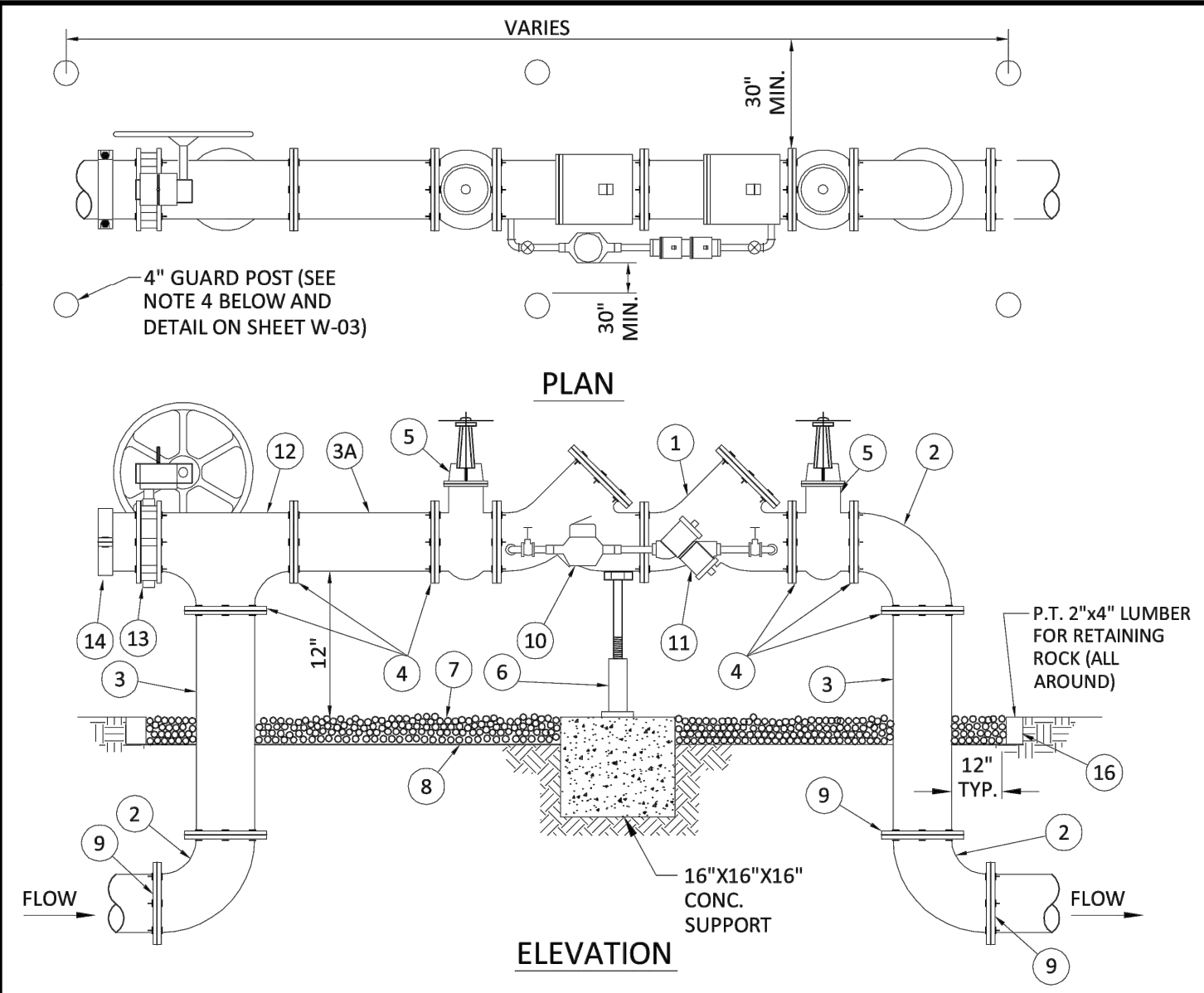
ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
DRAWN: EAM	TYPICAL TAPPING SLEEVE AND VALVE SETTING	DRAWING NO. G-06
APPROVED: XXX		



ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
DRAWN: EAM	TYPICAL GATE VALVE AND VALVE BOX SETTING	DRAWING NO. G-07
APPROVED: XXX		



ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 11/06/2017
DRAWN: EAM	FLEXIBLE PAVEMENT RESTORATION NOTES	DRAWING NO. G-12
APPROVED: XXX		

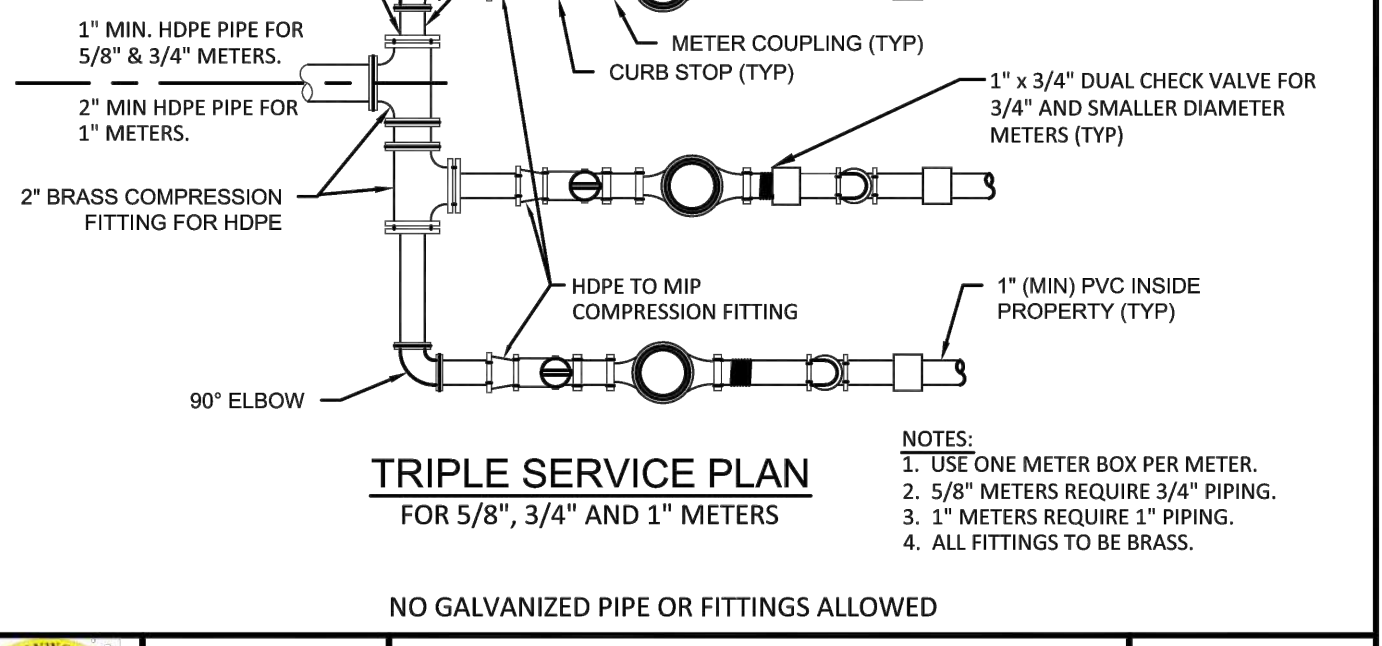
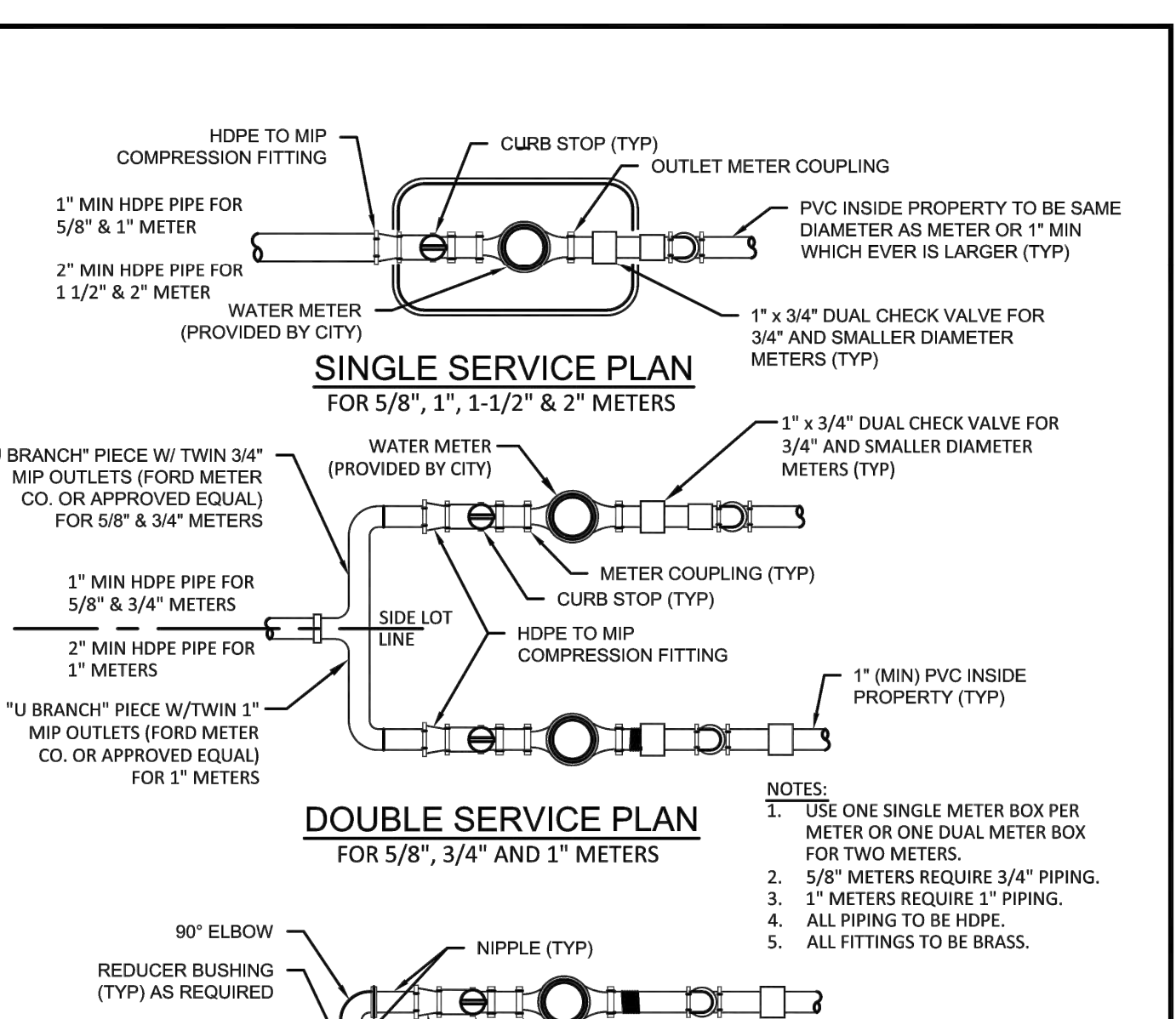


MATERIALS					
ITEM	QTY.	DESCRIPTION	ITEM	QTY.	DESCRIPTION
1	1	4", 6", 8" VALVE, DOUBLE CHECK	8	N/A	PLASTIC LINER/WEED STOP (5 MILS)
2	4	4", 6", 8" BEND-90°	9	4	RESTRAINED JOINTS
3	2	4", 6", 8" D.I.P. SPOOL PIECE	10	1	LOW FLOW METER
3A	1	4", 6", 8" D.I.P. SPOOL PIECE (24" LONG)	11	1	VALVE, BYPASS DOUBLE CHECK
4	10	4", 6", 8" FLANGE, D.I.P.	12	1	4", 6", 8" TEE
5	2	4", 6", 8" GATE VALVE (SEE NOTE 6)	13	1	4", 6" 8" BUTTERFLY VALVE (SUPERVISED CLOSED), CHAINED AND LOCKED
6	1	SCREW JACK/ANCHORED			
7	N/A	PEA GRAVEL (4" DEEP)	14	1	4", 6", 8" CAP

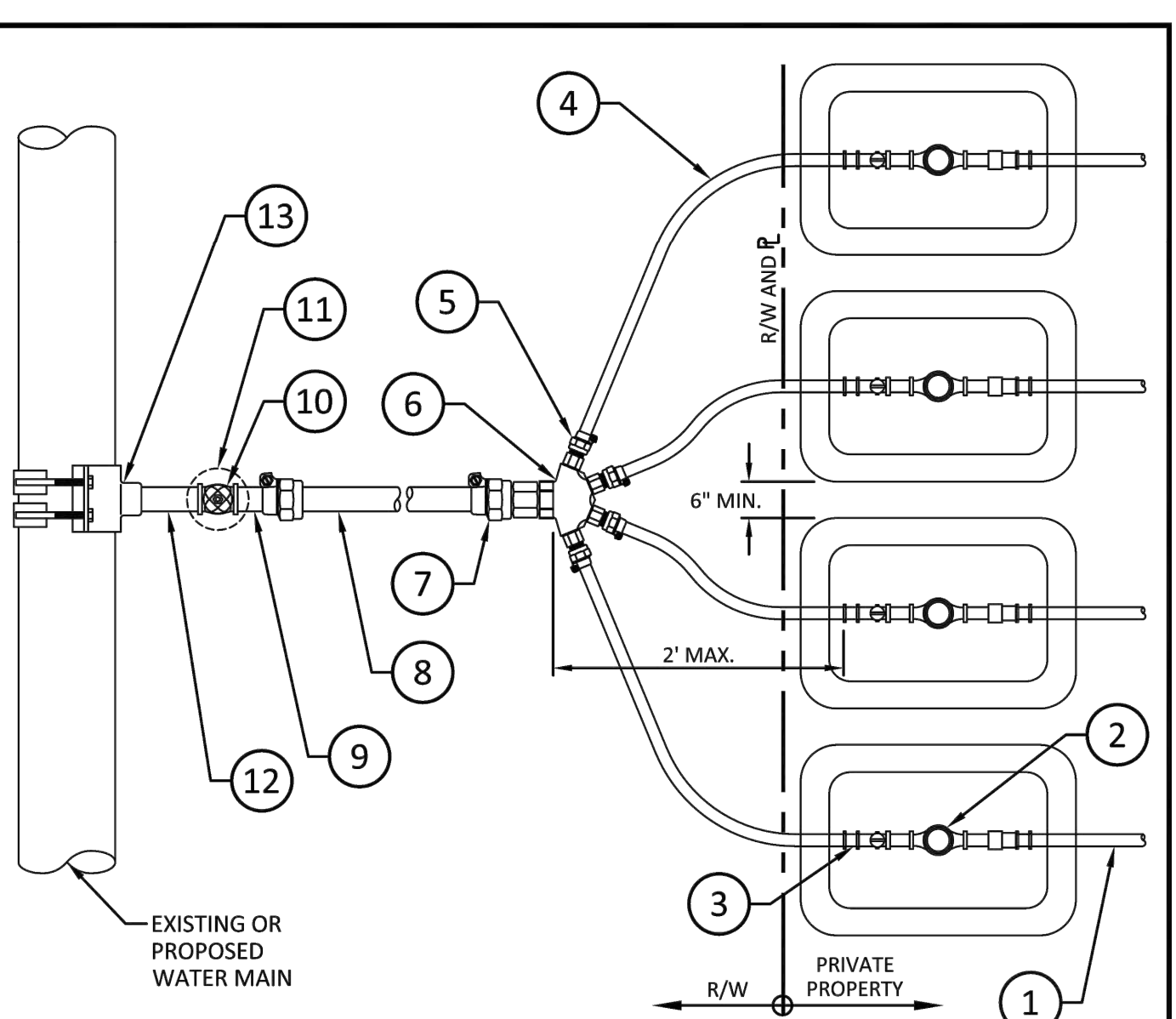
NOTES:

- FIELD ADJUST AND CUT ITEM 3 TO THE PROPER LENGTH.
- ALL PIPING SHALL BE D.I.P. CL 50/52 AS APPLICABLE TO MINIMUM STANDARDS.
- ALL LOW FLOW METER PIPING SHALL BE BRASS OR COPPER.
- PROTECTIVE 4" GALV. GUARD POSTS SHALL BE SPACED EVENLY APART AS SHOWN ABOVE OR IN ACCORDANCE WITH INSPECTOR'S DIRECTIONS.
- MAY USE 45° BENDS (SEE DETAIL W-05) WHEN WORKING AREA IS NOT LIMITED, AS DIRECTED BY CITY.
- GATE VALVES SHALL BE CHAINED AND LOCKED TOGETHER TO PREVENT TAMPERING

ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
DRAWN: EAM	TYPICAL 4", 6" AND 8" DOUBLE CHECK DETECTOR FOR FIRE SPRINKLER SERVICE W/B.V. CONNECTION (90° BENDS)	DRAWING NO. W-04
APPROVED: XXX		

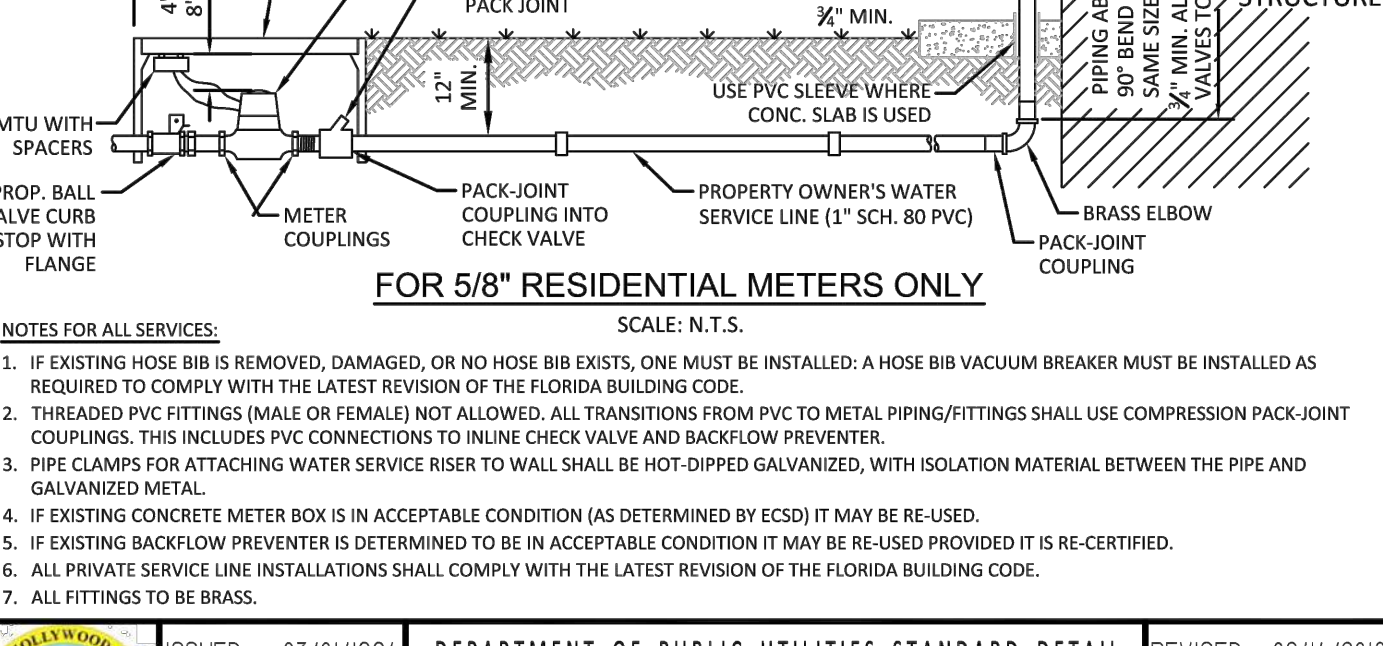
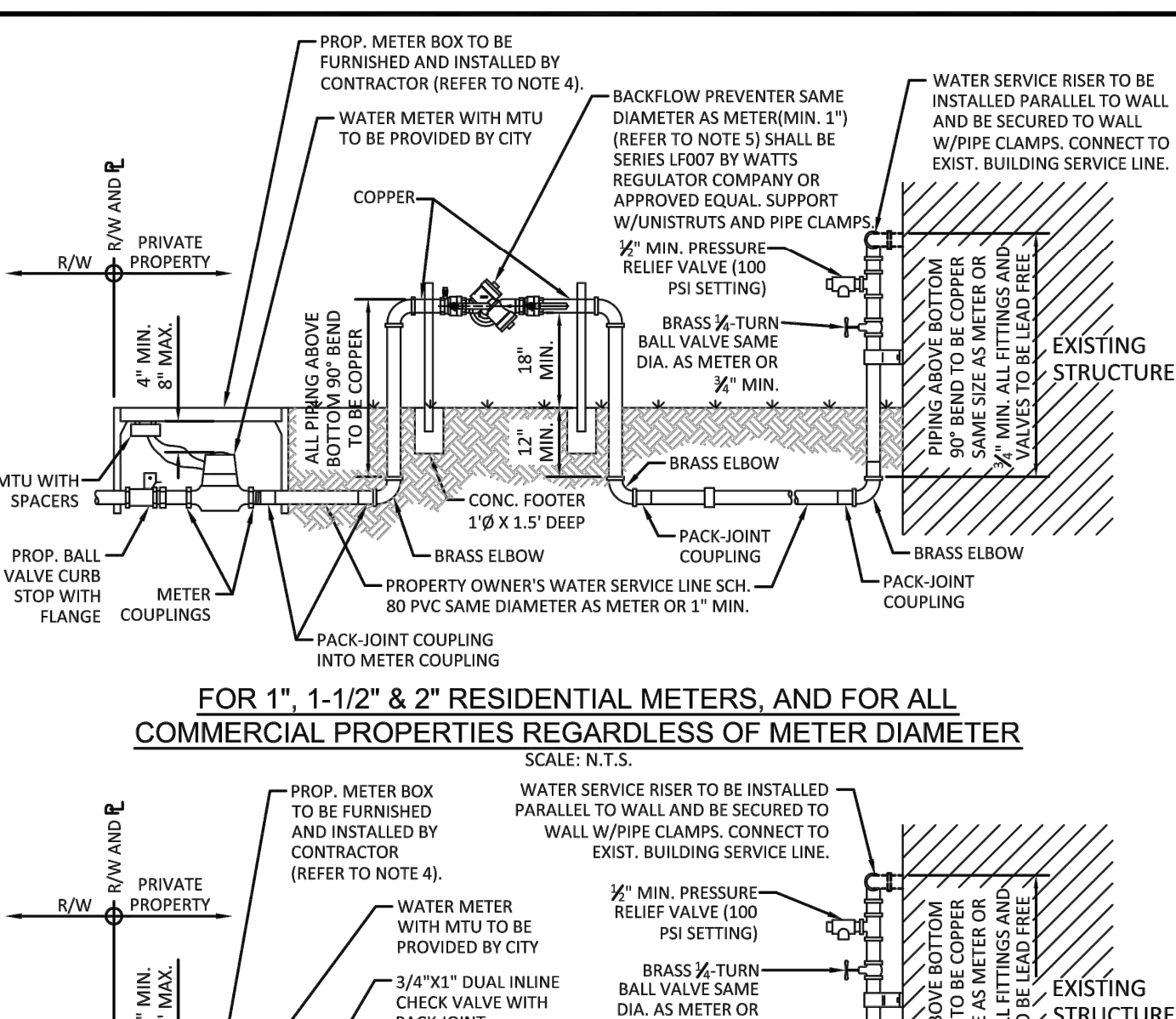


ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 11/06/2017
DRAWN: EAM	TYPICAL 5/8", 1", 1-1/2" AND 2" METER INSTALLATION	DRAWING NO. W-06
APPROVED: XXX		



- PROPERTY OWNER'S SERVICE PIPE
- 5/8", 3/4" OR 1" METER INSTALLATION (REFER TO "SINGLE SERVICE PLAN" ON STANDARD DETAIL W-06) (TYP. FOR 4)
- COUPLING W/1" COMPRESSION FOR HDPE X 3/4" MIP
- 1" HDPE SERVICE PIPE TO METER (TYP. FOR 4)
- COUPLING W/1" MIP X 1" COMPRESSION FOR HDPE (TYP. FOR 4)
- MULTI-SERVICE "M" W/SINGLE 2" FIP INLET AND (4)-1" FIP OUTLETS (MULTI SERVICE BRASS Y)
- COUPLING WITH 2" COMPRESSION FOR HDPE X 2" MIP
- 2" HDPE WATER SERVICE PIPE
- COUPLING W/2" BRASS THREAD X 2" COMPRESSION FOR HDPE
- PROP. 2" GATE VALVE W/2" OPERATING WHEEL
- PROP. VALVE BOX W/LID AND RISER. FOR UNPAVED AREAS, INSTALL 24"x24"x8" THICK CONC. COLLAR
- PROPOSED 2" BRASS NIPPLE
- PROP. DOUBLE STRAP SERVICE SADDLE FOR D.I.P. OR BAND SADDLE FOR PVC
- ALL FITTINGS TO BE BRASS.

ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 11/06/2017
DRAWN: EAM	METER BANK INSTALLATION FOR FOUR 5/8", 3/4" AND/OR 1" METERS	DRAWING NO. W-06.1
APPROVED: XXX		



ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 02/14/2018
DRAWN: EAM	TYPICAL WATER SERVICE FROM METER TO STRUCTURE FOR 5/8" THROUGH 2" METERS	DRAWING NO. W-10
APPROVED: XXX		



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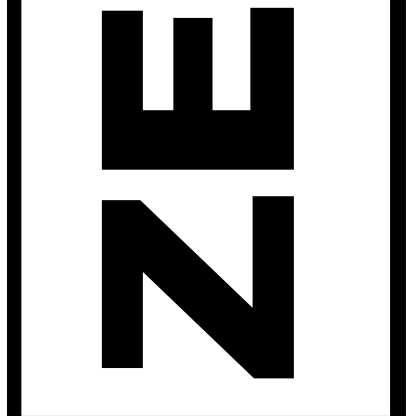
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**UTILITIES DETAILS**

SCALE: N.T.S.

REVISIONS	
NO.	DATE
1	4-24-23
	TAC REVIEW COMMENTS

**ZEPHYR ENGINEERING**  
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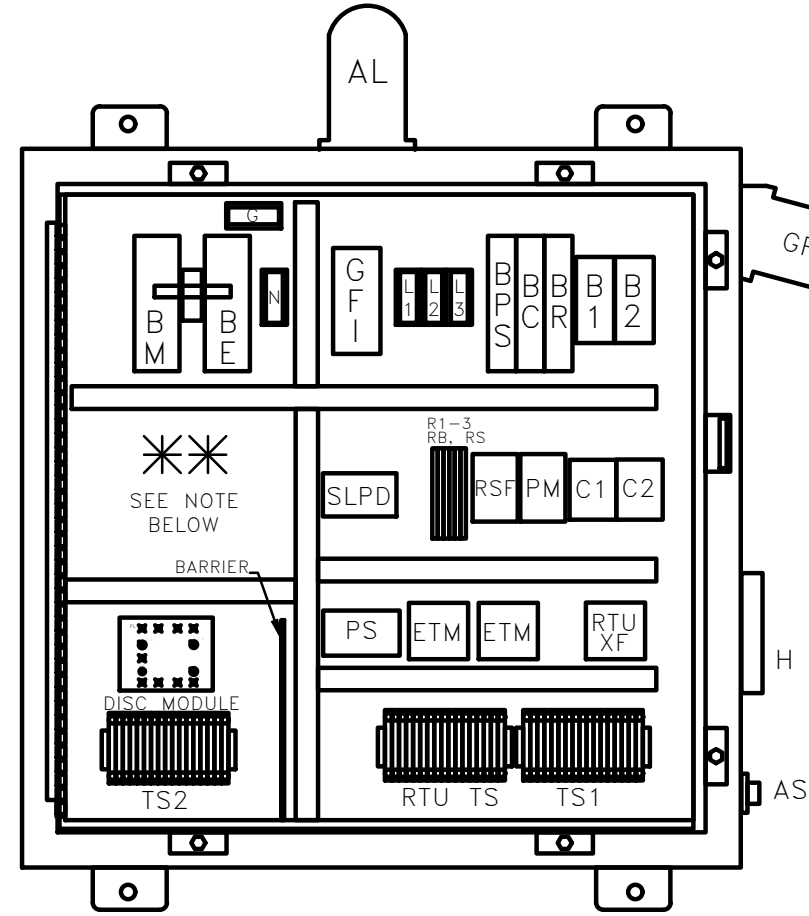
9 UNIT TOWNHOMES  
 2420 LINCOLN STREET  
 HOLLYWOOD, FL

P.E.#: 78036
DATE: 1/25/23
SCALE: N.T.S.
SHEET NO.: C7
7 OF 8
PROJECT NO.: 23-04

CONTROL CENTER DESIGNED & MANUFACTURED TO MEET ALL D.E.P. REQUIREMENTS

### MOPS CONTROL CENTER

SEE SCHEDULE FOR ELECTRICAL SERVICE REQUIREMENTS



INTERIOR LAYOUT (DOOR NOT SHOWN FOR CLARITY)

#### PANEL COMPONENTS

- AL ALARM LIGHT
- ALT ALTERNATOR (ON DISC)
- AS ALARM SILENCE SWITCH
- B1-2 MOTOR BREAKERS
- BC CONTROL BREAKER
- BE EMERGENCY BREAKER
- BM MAIN BREAKER
- BPS POWER SUPPLY BREAKER
- BR RECEPTACLE BREAKER
- C1-2 CONTACTOR, MOTOR START
- GFI CONVENIENCE RECEPTACLE
- DISC DUPLEX INTRINSICALLY SAFE CONTROLLER
- ETM ELAPSED TIME METER
- G GROUND BLOCK
- GR GENERATOR RECEPTACLE
- H HORN
- HOA HAND-OFF-AUTO SWITCH (ON DISC)
- L1,2,3 POWER DISTRIBUTION BLOCK
- N NEUTRAL BLOCK
- PL PILOT LIGHT (ON DISC)
- PM PHASE MONITOR
- PS POWER SUPPLY
- R1-3 RELAYS
- RB BATTERY RELAY
- RS SILENCE RELAY
- RSF SEAL FAIL RELAY
- RTUXF RTU TRANSFORMER
- SLPD SURGE/LIGHTNING PROTECTION DEV.
- TS1 TERMINAL STRIP FOR PUMPS
- TS2 TERMINAL STRIP FOR FLOATS

#### ENCLOSURE

NEMA 4X Stainless Steel  
Single Door w/ Padlock Hasp  
30"H x 30"W x 8"D

#### NOTES:

1. PANEL LABEL FOR U.L. 508A "MOTOR CONTROL CENTERS" AND U.L. 698A "HAZARDOUS LOCATION PANELS" (INTRINSICALLY SAFE)
2. COMPLETE BACK-UP, SELF-CHARGING BATTERY, WITH VISUAL/AUDIO ALARM SYSTEM PER RSWF-45.
3. SEE CONTROL CENTER DETAIL SHEET FOR ANY ADDITIONAL NOTES.

TERMINAL	DESCRIPTION	TERMINAL	DESCRIPTION
TS1	TS1	TS1	TS1
TS2	TS2	TS2	TS2

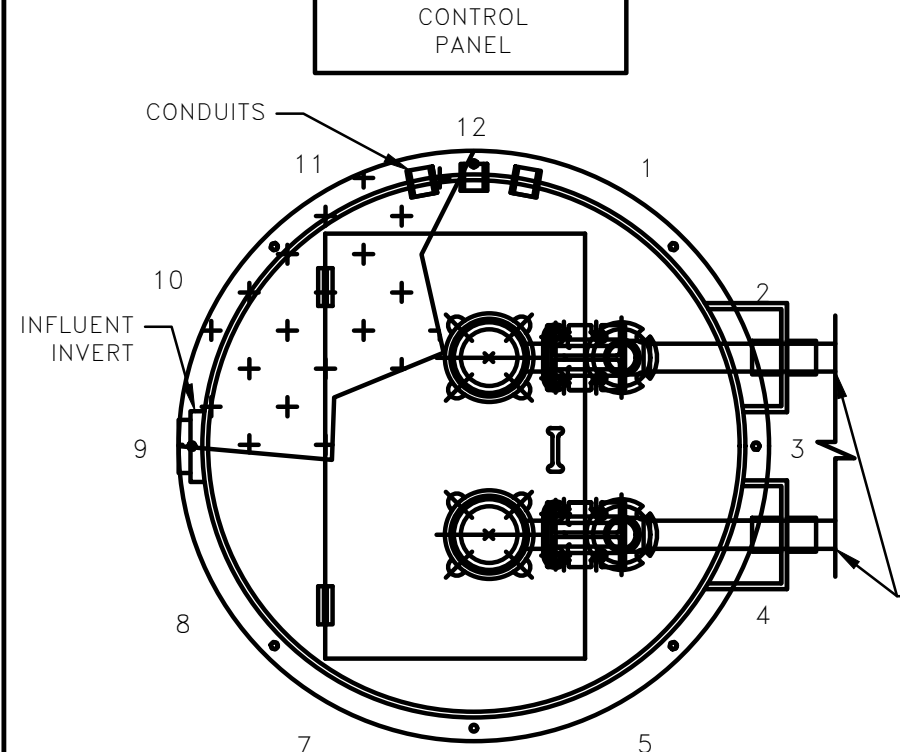
TS1 TERMINAL SCHEDULE



TS2 TERMINAL SCHEDULE

※ THIS SPACE AVAILABLE FOR CAPACITORS FOR SINGLE PHASE OR TRANSFORMER FOR 460V.

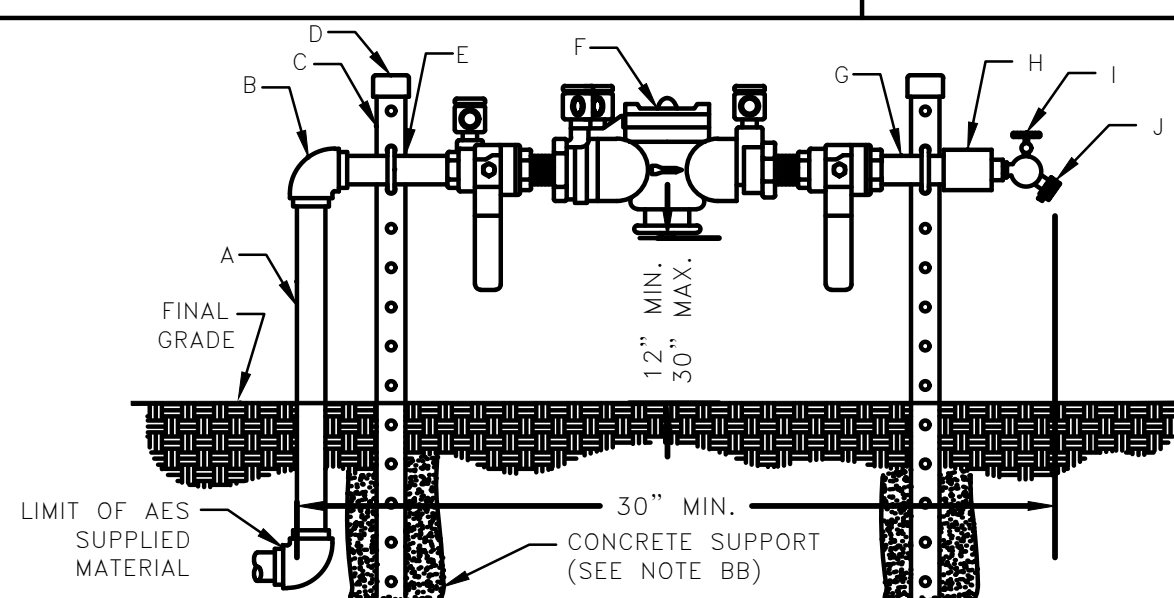
#### HUB AND INVERT LOCATION



ITEMS	CLOCK POSITION
DISCHARGE LINES	3:00
PRIMARY INVERT	9:00
SECONDARY INVERT	N/A
LOCATION OF CONTROL PANEL	12:00

NOTE: BACKFILL AROUND LIFT STATION FROM ANTI-FLOATATION RING UP TO FINISHED GRADE SHALL BE COMMON FILL COMPACTED IN 12-INCH MAX. LIFTS TO 98% DENSITY PER AASHTO T-180. CONTRACTOR SHALL EXERCISE CARE NOT TO DAMAGE WETWELL DURING COMPACTION.

SCHEMATIC BASED ON THE STATION'S DISCHARGE BEING LOCATED AT THE #3 CLOCK POSITION. SEE SCHEDULE FOR LOCATION OF INVERTS AND CONTROL PANEL. LOCATIONS SUBJECT TO CHANGE.



ITEM	QTY.	DESCRIPTION
A	1	3/4" x 36" S.S. NIPPLE
B	1	3/4" S.S. 90° ELBOW
C	2	1-5/8"x1-5/8"x40" S.S. SUPPORT BRACKET
D	2	SUPPORT BRACKET CAPS P/N 1804
E	2	3/4" S.S. PIPE BOLTS

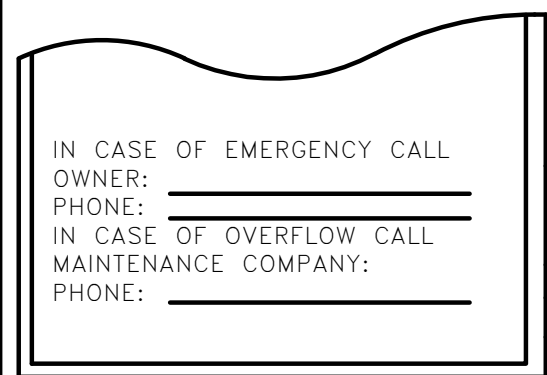
ITEM	QTY.	DESCRIPTION
F	1	3/4" APP. BACKFLOW PREVENTER
G	1	3/4" x 6" S.S. NIPPLE
H	1	3/4" x 3/4" S.S. COUPLING
I	1	3/4" BRONZE HOSE BIB
J	1	3/4" VACUUM BREAKER

#### DETAIL B

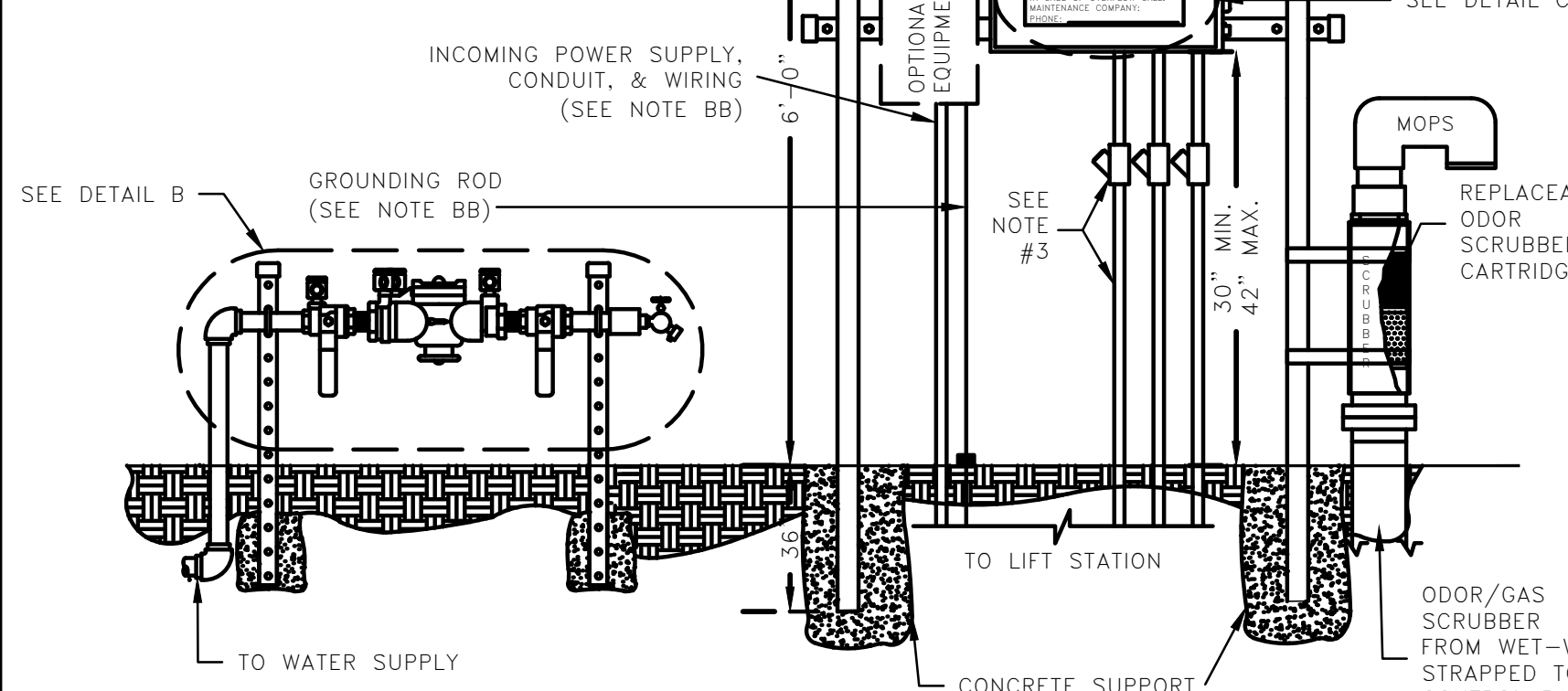
#### R.P.Z. BACKFLOW PREVENTER ASSEMBLY DETAIL

U.S.C. AND A.S.S.E. APPROVED

N.T.S.



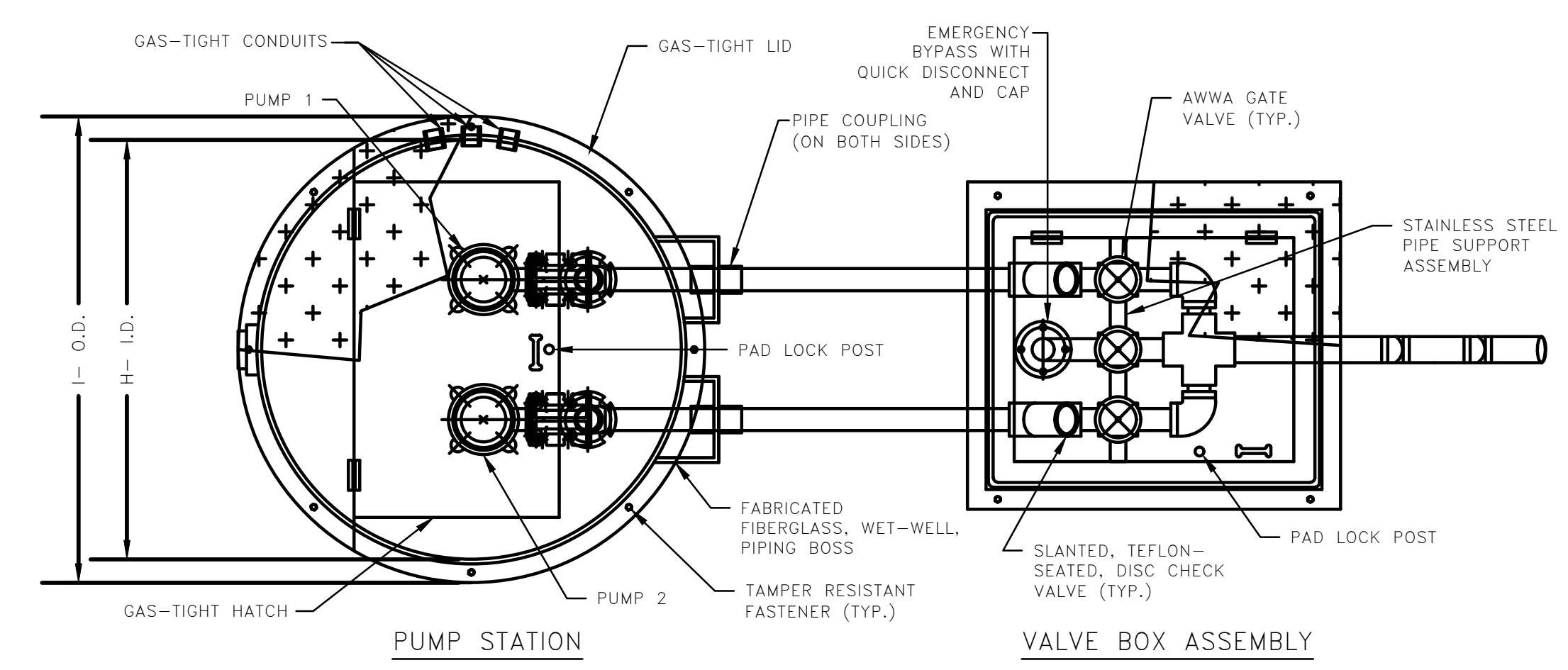
DETAIL C (SUPPLIED BY MAINT. COMPANY)



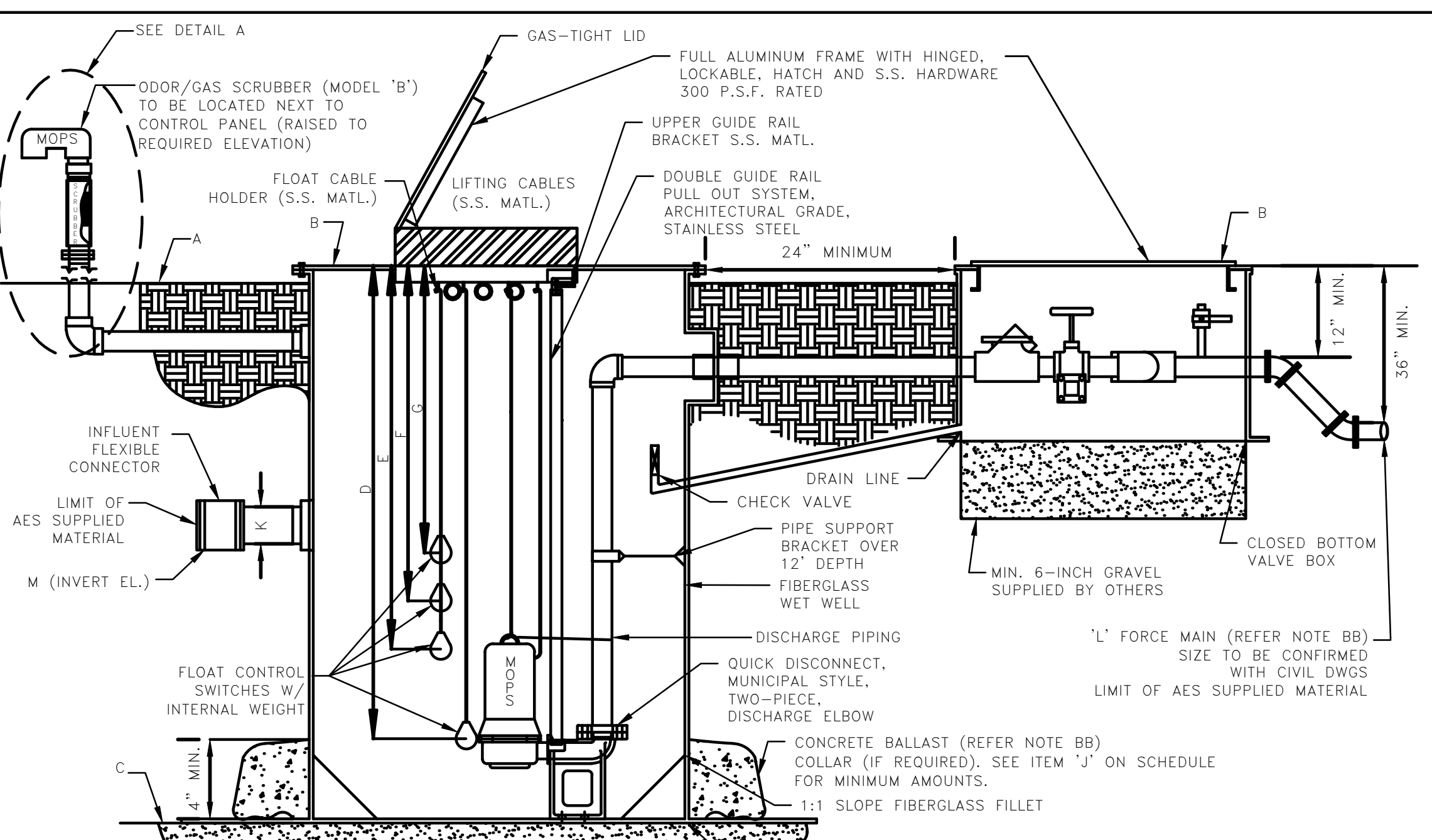
#### MOPS ODOR/GAS SCRUBBER

- NOTES:
1. SCRUBBER DESIGNED TO REMOVE TOXIC SEWAGE GASES, H<sub>2</sub>S, AND OFFENSIVE ODORS SUCH AS SKATOLE AND MERCAPTANS. SCRUBBER'S LIFE EXPECTANCY CALCULATIONS ARE INCLUDED IN SHOP DRAWING SUBMITTALS.
  2. SCRUBBER UNIT CAN BE MOUNTED INSIDE WET-Well OR TOP MOUNTED.
  3. MODEL 'B' SHOWN.

### CONTROL CENTER ASSEMBLY AND INSTALLATION N.T.S.



TOP VIEW N.T.S.



#### SECTION VIEW N.T.S.

NOTE: ALL METAL ITEMS IN CONTACT WITH SEWAGE GASES ARE ALUMINUM AND STAINLESS STEEL EXCEPT EPOXY COATED PUMPS AND DISCHARGE ELBOW.

# MOPS

## PRIVATE SERIES

MANUFACTURED ODORLESS PUMP STATION  
ATLANTIC ENVIRONMENTAL SYSTEMS, INC.  
LAKE WORTH, FL 33461  
PH: (561) 547-8080 FAX: (561) 547-3999 © 2000

THIS DRAWING AND THE DESIGN CONTAINED HEREIN IS PROPRIETARY AND IS AND SHALL REMAIN THE PROPERTY OF ATLANTIC ENVIRONMENTAL SYSTEMS, INC. THIS DRAWING AND DESIGN SHOULD BE USED ONLY FOR THE PURPOSE FOR WHICH IT IS INTENDED, AND ONLY WITH WRITTEN AUTHORIZATION FROM ATLANTIC ENVIRONMENTAL SYSTEMS, INC. ANY REPRODUCTION, IN WHOLE OR IN PART, MUST CLEARLY SHOW THE ATLANTIC ENVIRONMENTAL NAME AND ADDRESS IN THE REPRODUCTION.

### MOPS PUMP STATION SCHEDULE

MOPS SERIES	ITEM DESCRIPTION	QTY.	MODEL DESIGNATION
INITIAL DESIGN FLOW (G.P.M.)	80	100 YEAR FLOOD ELEVATION	13.41'
INITIAL DESIGN HEAD (T.D.H.)	23'	25 YEAR FLOOD ELEVATION	13.00'
SECONDARY DESIGN FLOW (G.P.M.)	N/A	A GRADE ELEVATION	13.01'
SECONDARY DESIGN HEAD (T.D.H.)	N/A	B TOP ELEVATION OF WET WELL	13.01'
RATED PERFORMANCE SPEED	3450 RPM	C BOTTOM ELEVATION OF WET WELL	3.01'
RATED MOTOR HORSEPOWER	4.0	D ALL PUMPS OFF ELEVATION	5.50'
SUBMERSIBLE PUMP TYPE (P-1,P-2)	NON-CLOG	E LEAD PUMP ON ELEVATION	6.50'
PUMP MODEL NUMBER	MOPS	F LAG PUMP ON ELEVATION	7.00'
SERVICE ENTRANCE VOLTAGE	208	G HIGH ALARM ELEVATION	7.50'
SERVICE ENTRANCE PHASE	1	H INSIDE DIAMETER OF WET-WELL	72"
CONTROL CENTER FULL LOAD AMPS	57	I OUTSIDE DIAMETER OF ANTI-FLOATATION RING	96"
NEMA 3R PAINTED STEEL DISCONNECT SWITCH, RATED AMPS	60	J MINIMUM CUBIC FEET OF CONCRETE BALLAST (CU YDS)	162/(6)
WET WELL SCOURER SYSTEM	N/A	K INVERT PIPE DIAMETER	8"
REMOTE STATION MONITOR (TELEMETRY)	N/A	L FORCE MAIN DIAMETER	4"
ON-SITE GENERATOR SYSTEM	N/A	M PRIMARY INVERT ELEVATION	8.25'
		N SECONDARY INVERT ELEVATION	N/A

MOPS EQUIPMENT IDENTIFICATION	QTY.	MODEL DESIGNATION
MOPS PUMP STATION	1	A24-72120-B-4.0
MOPS VALVE BOX ASSEMBLY (VBA)	1	VBA-24
MOPS ODOR/GAS SCRUBBER (OGS)	1	OGS-B
MOPS R.P.Z. ASSEMBLY	1	75
MOPS CONTROL CENTER	1	PSC-221-4.0-1
MOPS DISCONNECT SWITCH	1	FDS-60-1-2-PS
MOPS CONTROL CENTER MOUNTING ASSEMBLY	1	CCMA-32AL
MOPS WET WELL SCOURER SYSTEM	0	N/A
MOPS REMOTE STATION MONITOR	1	PROVIDED WITH SERVICE AGREEMENT
1st YEAR SERVICE/MAINTENANCE CONTRACT	1	LEVEL 1 WITH REMOTE MONITOR
MOPS ON-SITE GENERATOR SYSTEM	0	N/A
MOPS FIELD SERVICE WORK	1	CONTROL INSTALLATION & START-UP

#### MOPS PUMP STATION COMPLIANCE NOTES:

- THIS PUMP STATION DESIGN COMPLIES WITH THE FOLLOWING REQUIRED STANDARDS:
- STATE OF FLORIDA ENVIRONMENTAL PROTECTION STANDARDS
  - FLORIDA ADMINISTRATIVE CODE (F.A.C.): 62-640.400- COLLECTION AND TRANSMISSION SYSTEMS
  - NATIONAL ELECTRIC CODE (NEC) CLASS 1, DIVISION 1, GROUP D- HAZARDOUS LOCATIONS
  - UNDERWRITER'S LABORATORIES (U.L.) 508A-MOTOR CONTROL CENTERS AND U.L. 698A-INTRINSICALLY SAFE CONTROL CENTERS
  - RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES (2014 EDITION).
1. PUMPS ARE RATED BY FACTORY MUTUAL FOR CLASS 1, DIVISION 1, GROUP D ATMOSPHERES AS REQUIRED BY NEC.
  2. THE CONTROL CENTER INCORPORATES INTRINSICALLY SAFE RELAYS AND IS LISTED TO UL 698A INTRINSICALLY SAFE FOR CLASS 1, DIVISION 1 ATMOSPHERES.
  3. THE CONDUIT PROVIDED, ALONG WITH CONDUIT GAS-SEAL-OFFS, ARE RATED FOR CLASS 1, DIVISION 1 LOCATIONS.
  4. THE WASTEWATER PUMPS AND THE CONTROL CENTER INCORPORATE A MECHANICAL SEAL FAILURE DETECTION AND NOTIFICATION SYSTEM.
  5. THE CONTROL CENTER INCLUDES EITHER A REMOTE TELEMETRY UNIT (RTU) OR A SELF-CHARGING, BACK-UP ALARM SYSTEM TO OPERATE ON POWER FAILURE.
  6. THE PUMP STATION INCORPORATES AN ODORLESS DESIGN WITH A SCRUBBER SYSTEM TO CONTROL TOXIC GASES AND ODORS FOR COMPLIANCE TO F.A.C. 62-604.400.
  7. THE BOTTOM OF THE TOP RIM ELEVATION OF PUMP STATION MUST BE LOCATED AT A HIGHER ELEVATION THAN THE 25 YEAR FLOOD ELEVATION. THE LISTED 25 YEAR FLOOD ELEVATION PROVIDED BY SITE CIVIL ENGINEER.
  8. THE BOTTOM ELEVATION OF THE MOPS CONTROL CENTER MUST BE LOCATED AT A HIGHER ELEVATION THAN THE 100 YEAR FLOOD ELEVATION. THE LISTED 100 YEAR FLOOD ELEVATION PROVIDED BY THE SITE CIVIL ENGINEER.

#### MOPS ENGINEERING NOTES:

- AA. THE HORSEPOWER SHOWN ON THE SCHEDULE IS A MINIMUM HORSEPOWER REQUIREMENT BASED ON THE STATION'S DESIGN CRITERIA AND THE REQUIRE TORQUE. (LOWER RATED HORSEPOWER EQUIPMENT WILL NOT BE ACCEPTABLE.)
- BB. THESE ITEMS ARE NOT SUPPLIED BY A.E.S. WITH THE MOPS STATION.
- CC. INVERT ELEVATIONS BASED ON INSIDE BOTTOM OF PIPE.
- DD. THE MOPS CONTROL ASSEMBLY CONSISTS OF THE FOLLOWING: CONTROL CENTER DISCONNECT SWITCH, MOUNTING ASSEMBLY, ELECTRICAL CONDUITS, AND SEAL-OFF. THESE ITEMS MUST BE SUPPLIED AND INSTALLED BY THE MOPS PUMP STATION MANUFACTURER TO VALIDATE MOPS WARRANTY PROGRAM.
- EE. FOR STATIONS IN MIAMI-DADE COUNTY, THE MOPS PUMP STATION IS SUPPLIED WITH A REMOTE TELEMETRY MONITORING UNIT AND A.E.S. MAINTENANCE SERVICE. THE R.T.U. ALLOWS FOR MONITORING OF LAG ALARM, HIGH ALARM, AND POWER FAILURE PER CHAPTER 24.42.2(5). THE R.T.U. IS EQUIPPED WITH A BATTERY BACK UP AND IS INSTALLED ABOVE THE 100 YEAR FLOOD ELEVATION.
- THE MOPS WASTEWATER PUMP STATION DESIGN AND EQUIPMENT SHOWN ON THIS DRAWING HAS BEEN REVIEWED, PERMITTED, AND CERTIFIED AS COMPLYING WITH ALL THE STATE OF FLORIDA D.E.P. AND LOCAL REQUIREMENTS. ANY SUBSTITUTION FROM THIS DESIGN MAY REQUIRE NEW PERMITS, APPLICATION FEES, AND ENGINEERING SERVICES FOR RE-CERTIFICATION AND DESIGN REVIEW.

#### P.E. CERTIFICATION:

Bonnie McLeod, P.E., Lic # 70797 V.P. of Engineering  
Atlantic Environmental Systems, Inc., Certificate # 26398  
2244 4th Ave. North, Lake Worth, Florida 33461  
Ph: 561-547-8080 Fax: 561-547-3999

REVISION	DATE
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Project: 9 UNITS TH - 2420 LINCOLN STREET, HOLLYWOOD, FL 33020  
Prepared For: ZEPHYR ENGINEERING  
Date: 01/12/2023

AES: N/A  
Project No: N/A  
Date: 01/12/2023

Page No. LS-1

REVISIONS / SUBMISSIONS



PHASE:

CLIENT:

9 UNIT TOWNHOMES  
2420 LINCOLN ST.  
HOLLYWOOD, FL 33020  
**EXISTING TREE  
DISPOSITION PLAN**



RYAN J. KING EBRAHIMIAN  
LA6667324

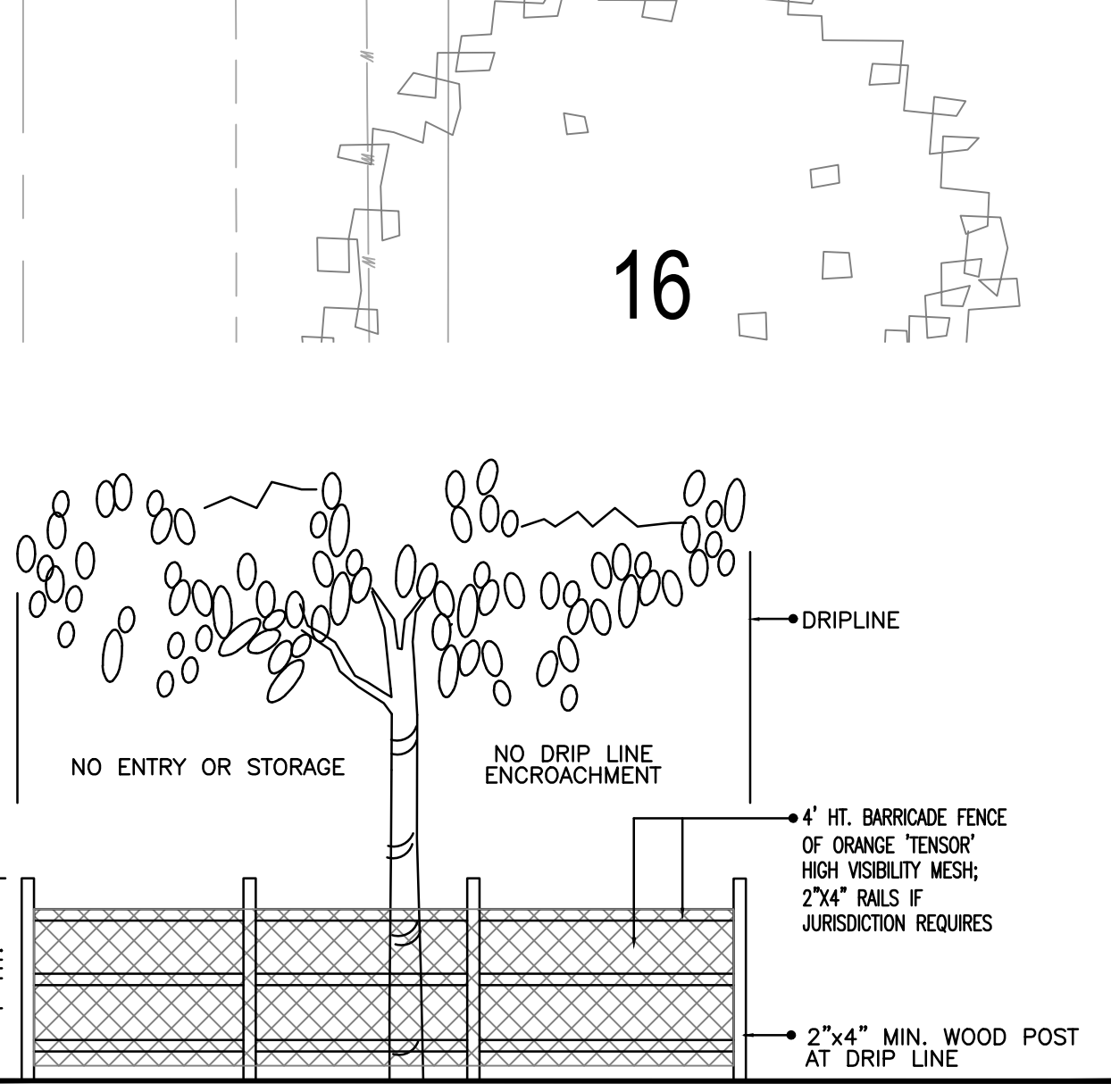
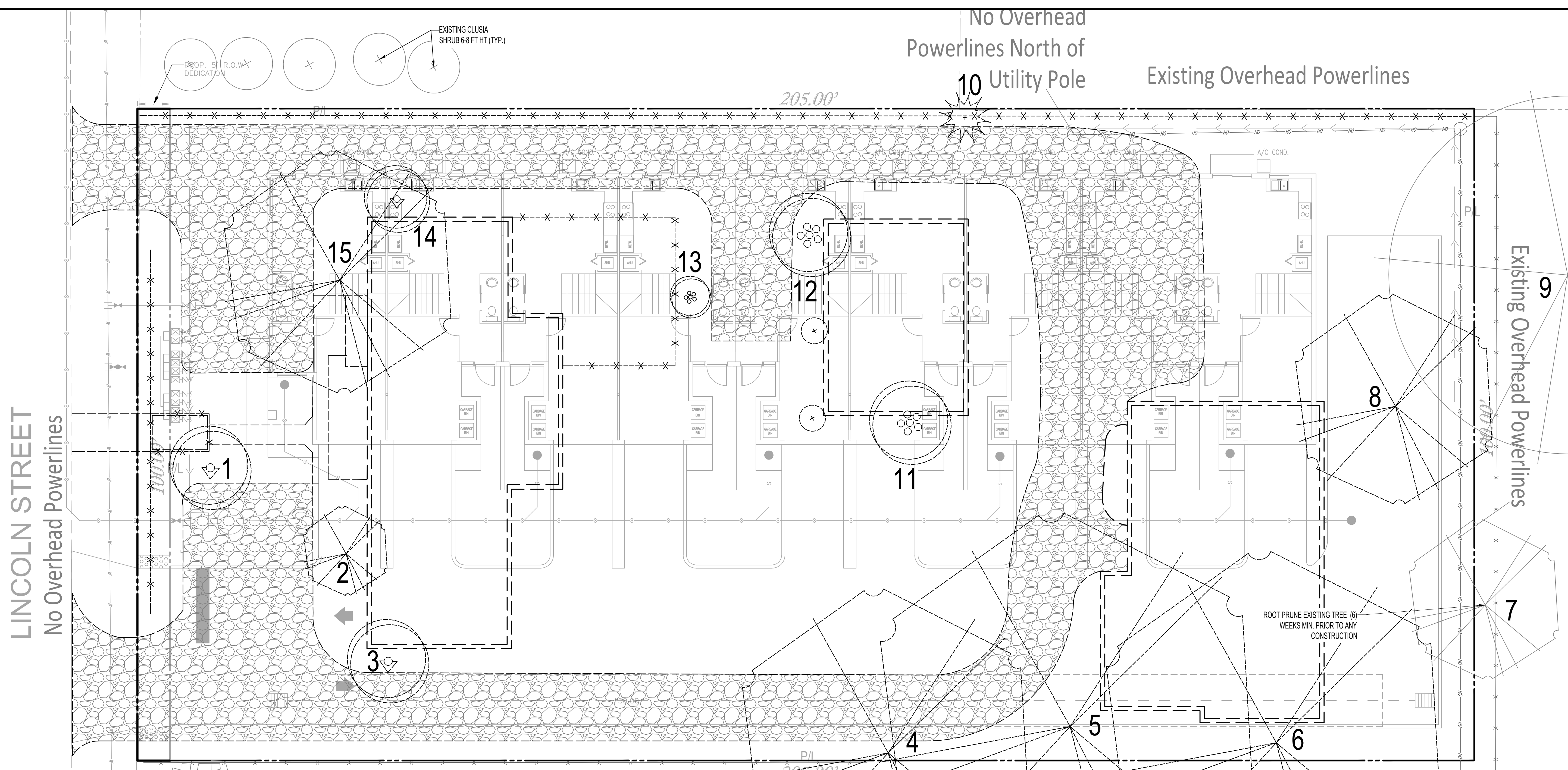
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DATE: 2023-06-28

SHEET NUMBER:

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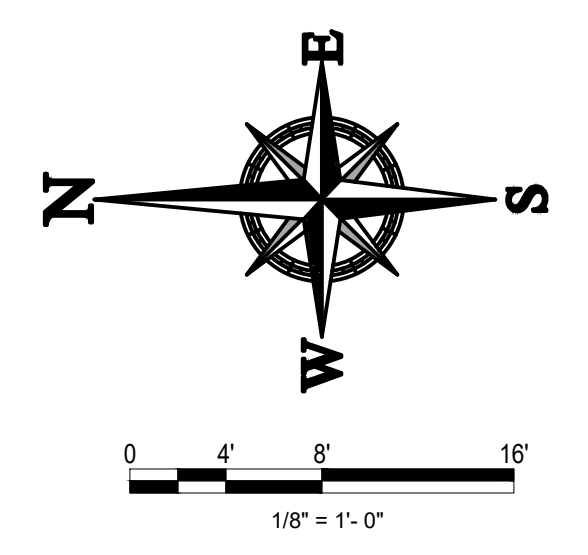
TREE INVENTORY & DISPOSITION CHART										1
2420 LINCOLN STREET - HOLLYWOOD, FL										2
TREE NO	BOTANICAL NAME	COMMON NAME	DBH (in.)	HT (ft)	SPR (ft)	CONDITION	DISPOSITION	COMMENTS	3	4
1	<i>Vietchia merrillii</i>	Manilla Palm	4	9' ct	5	60%	remove	Nutrient Deficient	5	6
2	<i>Bursera simaruba</i>	Gumbo limbo	8	22	14	55%	remove	Co-canopy with #15; Co-Dominant; Poor structure; Lean; Sparse canopy; Rootbound by walkway & Blg Fndtn.	7	8
3	<i>Vietchia merrillii</i>	Manilla Palm	4	11' ct	8	60%	remove	Nutrient Deficient	9	10
4	<i>Ficus citrifolia</i>	Shortleaf Fig	60	58	49	65%	remove	SPECIMEN; OHW; Root Bound by Driveway; Multi-Dominant	11	12
5	<i>Ficus citrifolia</i>	Shortleaf Fig	120	65	62.5	70%	remove	SPECIMEN; OHW; Root Bound by Driveway; Multi-Dominant	13	14
6	<i>Ficus nitida</i>	Indian Laurel Fig	30	62	56	65%	remove	Prohibited/Not Protected; Root Bound & Adj. Blg Fndtn.	15	16
7	<i>Bursera simaruba</i>	Gumbo limbo	11	33	25	65%	REMAIN	OHW; OFFSITE	17	18
8	<i>Bursera simaruba</i>	Gumbo limbo	15	32	33	65%	remove	OHW	19	20
9	Unknown		18	42	56	65%	REMAIN	OFFSITE	21	22
10	<i>Cycas palms arecardioides</i>	Carriacowood	3	18	6.3	65%	remove	Invasive	23	24
11	<i>Dysois lutescens</i>	Areca Palm	12	ca	7	55%	remove		25	26
12	<i>Dysois lutescens</i>	Areca Palm	16	ca	8	55%	remove		27	28
13	<i>Dysois lutescens</i>	Areca Palm	8	ca	6	55%	remove		29	30
14	<i>Livistonia chinensis</i>	Chinese Fan Palm	10	ca/4' ct	7	65%	remove	Adj. Blg Fndtn.; Not Protected	31	32
15	<i>Ficus benjamina</i>	Weeping Fig	12	36	38	50%	remove	Prohibited/Not Protected; Root Bound & Adj. Blg Fndtn.	33	34
16	<i>Coccoloba uvifera</i>	Seagrape	30	38	32	70%	REMAIN	SPECIMEN; OFFSITE	35	36

TREE MITIGATION CALCULATIONS	
TOTAL DBH INCHES OF PROTECTED TREES ON SITE:	203
TOTAL DBH INCHES TO REMAIN:	0
TOTAL DBH INCHES OF TREES TO BE REMOVED FROM SITE:	203
2" DBH REPLACEMENT TREES REQUIRED:	101.5
TOTAL PALMS ≥8" CT REMOVED FROM SITE:	5
TOTAL REPLACEMENT PALMS REQUIRED:	5
TOTAL 2" DBH REPLACEMENT TREES REQUIRED:	106.5
TOTAL TREE TRUSTY CONTRIBUTION (1350 PER REPLACEMENT TREE):	\$ 143,250.00
TOTAL TREE TRUSTY CONTRIBUTION (1350 PER REPLACEMENT TREE):	\$ 37,275.00

NOTE: SPECIMEN TREES ≥18" DBH; TOTALS ABOVE ONLY INCLUDE ON-SITE & PROTECTED TREES

GENERAL EXISTING TREE NOTES:

- TREE PROTECTION BARRICADES SHALL BE PROVIDED BY LANDSCAPE CONTRACTOR AROUND EXISTING TREES THAT MAY BE IMPACTED BY THE PROPOSED CONSTRUCTION. PRIOR TO ANY CONSTRUCTION A TREE PROTECTION BARRICADE INSPECTION SHALL BE CONDUCTED BY THE LANDSCAPE ARCHITECT, OWNER OR GOVERNING MUNICIPALITY. REFER TO LANDSCAPE DETAIL FOR TREE PRESERVATION BARRICADE FENCING. DURING PERIODS OF DEVELOPMENT & CONSTRUCTION, THE AREAS WITHIN THE DRIP-LINE OF PRESERVED TREES SHALL BE MAINTAINED AT THEIR ORIGINAL GRADE WITH PERVIOUS LANDSCAPE MATERIAL. WITHIN THESE AREAS, THERE SHALL BE NO TRENCHING OR CUTTING OF ROOTS, EXCEPT WHERE NECESSARY DUE TO PROPOSED CONSTRUCTION, NO FILL, COMPACTION, OR REMOVAL OF SOIL, & NO USE OF CONCRETE, PAINT, CHEMICALS, OR OTHER FOREIGN SUBSTANCES.
- ALL ROOT PRUNING & CANOPY TRIMMING ACTIVITIES SHALL BE CONDUCTED UNDER THE SUPERVISION OF AN ISA CERTIFIED ARBORIST UTILIZING BEST MANAGEMENT PRACTICES TO ENSURE VIABILITY OF EXISTING TREES. NO TREE CANOPY SHALL BE TRIMMED BY MORE THAN 25%. ALL TREES TO REMAIN SHALL BE STRUCTURALLY PRUNED. ANY NECESSARY TREE TRIMMING SHALL BE IN ACCORDANCE WITH THE JURISDICTIONAL PRUNING STANDARDS & ANSI A-300 PRIOR TO ANY CONSTRUCTION WORK TAKING PLACE.
- ROOT PRUNING: PRIOR TO ANY CONSTRUCTION OR INSTALLATION OF UNDERGROUND UTILITIES WITHIN THE EXISTING CANOPY DRIPLINE, ROOT-PRUNE ALL TREES TO BE PRESERVED IN THE CONSTRUCTION IMPACT AREA FOR THIS SITE A MINIMUM OF SIX (6) WEEKS PRIOR TO CONSTRUCTION. TRENCHES FOR PROPOSED UTILITIES SHALL BE HAND DUG AS FAR FROM THE TRUNK OF EXISTING TREES TO REMAIN AS POSSIBLE. ALL WORK DONE WITHIN THE DRIPLINE OF ANY EXISTING TREE TO REMAIN SHALL BE DONE ONLY BY HAND WITH CARE.
- LIQUIDATED DAMAGES SHALL BE ASSESSED TO THE CONTRACTOR FOR TREES SPECIFIED TO BE PRESERVED THAT DIE OR ARE DAMAGED AS A RESULT OF IMPROPER TREE PROTECTION PROCEDURES &/OR CONSTRUCTION OPERATIONS. TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPEN &/OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF ONE HUNDRED DOLLARS (\$100) PER DBH INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY PERCENT (20%) PER INCH OVER FOUR INCHES (4") DBH AS FIXED AND AGREED LIQUIDATED DAMAGES, OR AS MAY BE REQUIRED BY THE REGULATING GOVERNMENT AGENCY, WHICHEVER IS GREATER. DBH SHALL BE MEASURED AT FOUR FEET & A HALF (4.5) ABOVE SURROUNDING GROUND.
- IN ALL VEHICULAR USE AREAS, ALL TREES SHALL BE PRUNED & MAINTAINED TO ALLOW FOR CLEAR PASSAGE AT AN 8.5 FT HEIGHT. EXISTING TREES ADJACENT TO VEHICULAR USE AREAS MAY BE TRIMMED UP TO 13.5 FT ABOVE VEHICULAR USE AREAS.
- ROOT BARRIERS SHALL BE PROVIDED FOR ADJACENT TO ALL PROPOSED UTILITIES. SEE ROOT BARRIER DETAIL ON THE LANDSCAPE DETAILS SHEET.
- ALL INVASIVE EXOTIC PLANT MATERIALS SHALL BE REMOVED & ERADICATED FROM THE ENTIRE SITE & ADJACENT RIGHT-OF-WAYS IN PERPETUITY PRIOR TO FINAL LANDSCAPE CERTIFICATION. PERPETUAL MAINTENANCE IS REQUIRED TO PROHIBIT THE REESTABLISHMENT OF INVASIVE EXOTIC SPECIES THROUGHOUT THE SITE & WITHIN ALL PRESERVATION & RESTORATION AREAS.
- DURING LAND ALTERATION A CONSTRUCTION ACTIVITIES, IT SHALL BE UNLAWFUL TO REMOVE VEGETATION BY GRUBBING OR TO PLACE SOIL DEPOSITS, DEBRIS, SOLVENTS, CONSTRUCTION MATERIALS, MACHINERY, OR OTHER EQUIPMENT OF ANY KIND WITHIN THE DRIPLINE OF A TREE TO REMAIN UNLESS OTHERWISE APPROVED BY THE JURISDICTION.
- UNLESS OTHERWISE NOTED, ALL SHRUBS, ACCENT PLANTS, & GROUNDCOVERS SHALL BE REMOVED FROM CONSTRUCTION AREA, EXCEPT NATIVE PLANTS IN PRESERVATION AREAS.
- VIABLE & ARABLE WELL DRAINED NATIVE SOILS SHALL BE LAB TESTED, STOCKPILED, AMENDED IF NECESSARY, & REUSED BENEATH IMPORTED TOPSOILS IN LANDSCAPE AREAS.



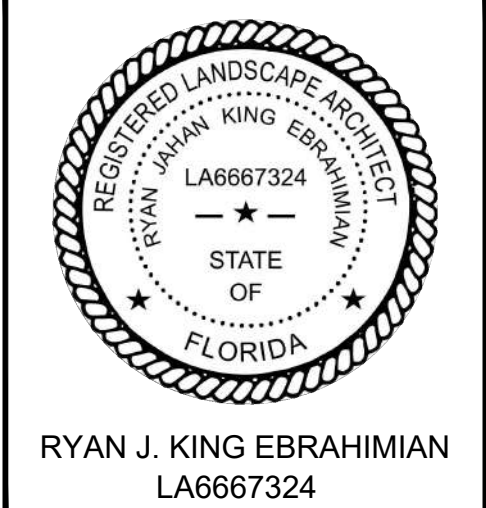
REVISIONS / SUBMISSIONS



PHASE:  
 CLIENT:

9 UNIT TOWNHOMES  
 2420 LINCOLN ST  
 HOLLYWOOD, FL 33020

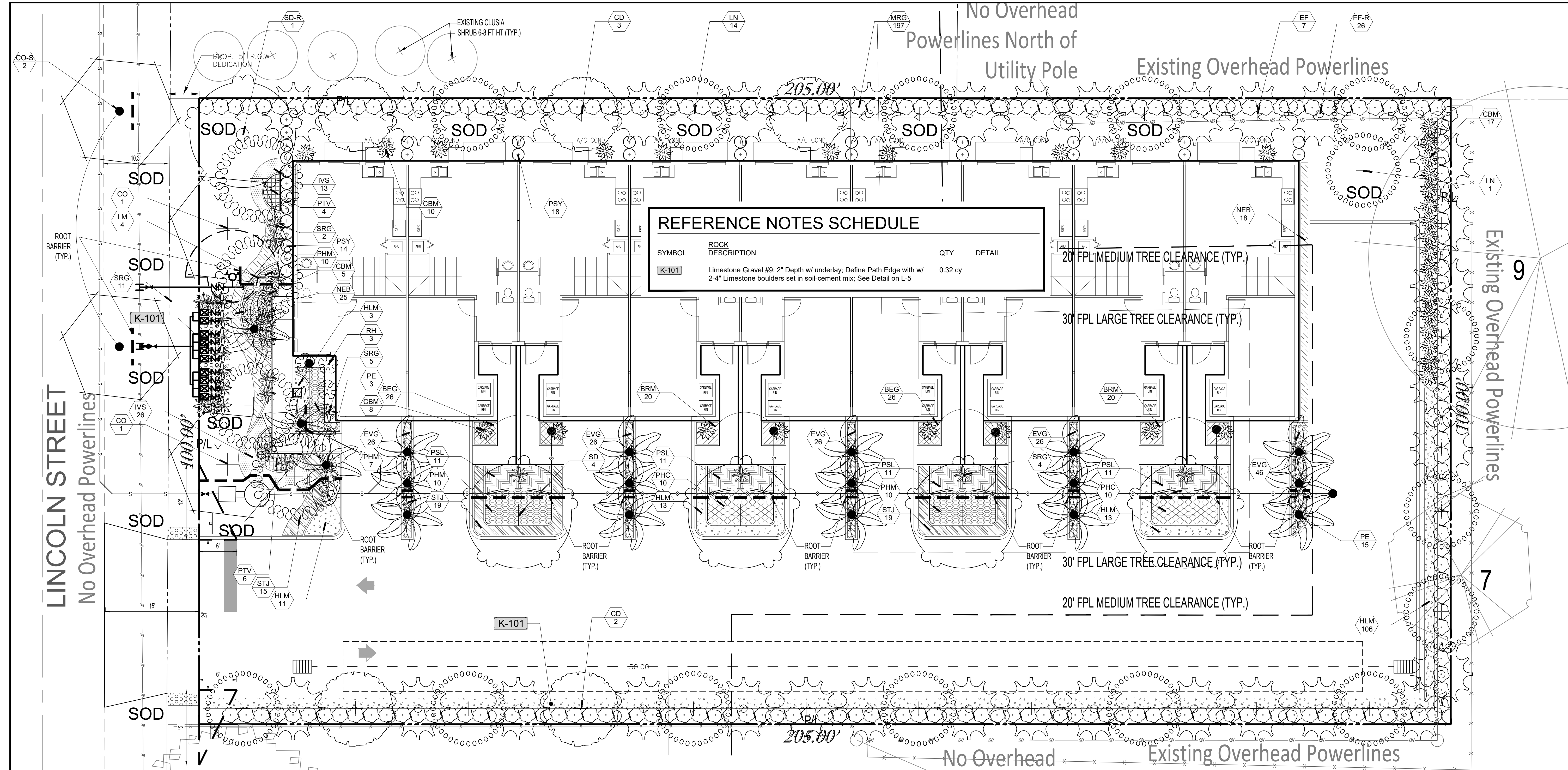
LANDSCAPE PLAN



RYAN J. KING EBRAHIMIAN  
 LA6667324

DRAWN BY: RJK  
 CHECKED BY:  
 DATE: 2023-06-28

SHEET NUMBER:  
**L-2**



**REFERENCE NOTES SCHEDULE**

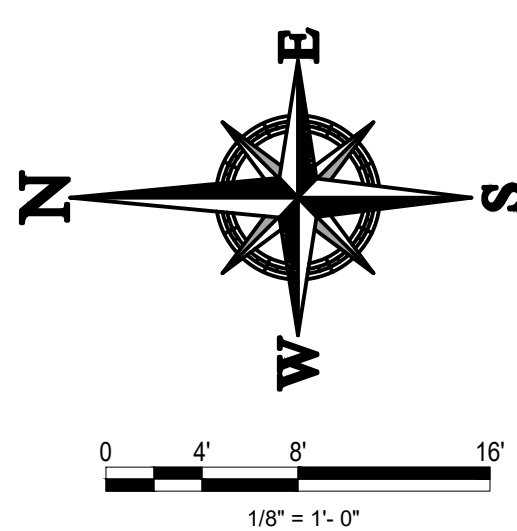
SYMBOL	ROCK DESCRIPTION	QTY	DETAIL
K-101	Limestone Gravel #9; 2" Depth w/ underlay; Define Path Edge with w/ 2-4" Limestone boulders set in soil-cement mix; See Detail on L-5	0.32 cy	

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**PLANT SCHEDULE**

TREES	QTY	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS	CAL/DBH	HEIGHT	SPREAD	NATIVE	XERIC	REMARKS	MITIGATION INCHES OVER CODE MIN.
CD	5	Pigeon Plum	Coccoloba diversifolia	FG/B&B	2" DBH	12' Ht	5'-6"	Yes	High	5' CT, FL FANCY	+2.5 INCHES
CO	2	Satinleaf	Chrysophyllum oliviforme	B & B	4" DBH	16' Ht	7'	Yes	High	6' CT, FL FANCY	+4 INCHES
EF	7	Spanish Stopper	Eugenia foetida	45 gal	2" DBH	12' Ht	5'	Yes	High	5' CT, STD	+4 INCHES
LM	4	Muskogee Crape Myrtle	Lagerstroemia fauriei 'Muskogee'	FG/B&B	2" DBH	12' Ht	5'-6"	No	High	6' CT, STD(II)	+4 INCHES
LN	15	'Natchez' Crape Myrtle	Lagerstroemia fauriei 'Natchez'	FG/B&B	2" DBH	12' Ht	5'-6"	No	High	5' CT, STD(II)	+4 INCHES
SD	4	Bustic Willow	Sideroxylon salicifolium	65 gal	4" DBH	16' Ht	7'	Yes	High	6' CT, STD, FL FANCY	+8 INCHES
REPLACEMENT TREES	QTY	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS	CAL/DBH	HEIGHT	SPREAD	NATIVE	XERIC	REMARKS	MITIGATION INCHES OVER CODE MIN.
EF-R	26	Spanish Stopper	Eugenia foetida	45 gal	2" DBH	12' Ht	5'	Yes	High	5' CT, STD	+52 INCHES
SD-R	1	Bustic Willow	Sideroxylon salicifolium	65 gal	4" DBH	16' Ht	7'	Yes	High	6' CT, STD, FL FANCY	+4 INCHES
PALM TREES	QTY	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS	CAL/DBH	HEIGHT	SPREAD	NATIVE	XERIC	REMARKS	MITIGATION INCHES OVER CODE MIN.
PE	18	Alexander Palm	Phytosperma elegans	B & B	16" ct	6-8'	No	High	High	COUNTED @3:1	+4 INCHES
STREET TREES	QTY	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS	CAL/DBH	HEIGHT	SPREAD	NATIVE	XERIC	REMARKS	MITIGATION INCHES OVER CODE MIN.
CO-S	2	Satinleaf	Chrysophyllum oliviforme	B & B	4" DBH	16' Ht	7'	Yes	High	6' CT, FL FANCY	+4 INCHES
SHRUBS	QTY	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS	SPACING	HEIGHT	SPREAD	NATIVE	XERIC	REMARKS	MITIGATION INCHES OVER CODE MIN.
CBM	40	Black Magic Ti Plant	Cordyline fruticosa 'Black Magic'	NA	As Shown	30"	18-24"	No	High		+4 INCHES DBH & \$23,450 TO CITY TREE FUND
MRG	197	Colocwood	Myrsine cubana	7 gal	30"	42"	24"	Yes	High	Full to Base	
PSY	32	Wild Coffee	Psychotria nervosa	NA	24"	24"	18"	Yes	High	Full to Base	
RH	3	Slender Lady Palm	Rhapsis humilis	7 gal	As Shown	48-60"	30-36"	No	High	Fl FANCY; Columnar; Multi	
SRG	22	Bird Of Paradise	Strelitzia reginae	NA	As Shown	30"	30-36"	No	Medium		
SHRUB AREAS	QTY	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS	SPACING	HEIGHT	SPREAD	NATIVE	XERIC	REMARKS	MITIGATION INCHES OVER CODE MIN.
PHC	20	Congo Philodendron	Philodendron x 'Congo'	n/a	30"	18"	18"	No	High	Full/Low Branched; Shade Grow	
PHM	37	Philodendron 'Moonlight'	Philodendron 'Moonlight'	3 gal.	30"	16"-20"	18"	No	High	Full/Low Branched; Shade Grow	
PSL	44	Dwarf Wild Coffee	Psychotria ligustrifolia 'Nana'	7 gal	24"	18"	18"	Yes	High		
PTV	10	Dwarf Variegated Pittosporum	Pittosporum tobira 'Dwarf Variegata'	n/a	24"	14-16"	14-16"	No	High		
GROUND COVERS	QTY	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS	SPACING	HEIGHT	SPREAD	NATIVE	XERIC	REMARKS	MITIGATION INCHES OVER CODE MIN.
BEG	52	Wax Begonia	Begonia x ampeliformis-cultorum	n/a	12"	8-10"	8-10"	No	High		
BIM	40	Baby Rubber Plant 'Marble'	Peperomia obtusifolia 'Marble'	1 gal.	14"	8-10"	8-10"	Yes	High	Shade Grown; Variegated	
EVG	150	Dwarf Morning Glory	Evolvulus gnomonatus 'Blue Daze'	n/a	12"	8-10"	10-12"	No	High		
HLM	146	Spider Lily	Hymenocallis latifolia	n/a	24"	16"-18"	18"	Yes	High		
IVS	39	Schillings Yaupon Holly	Ilex vomitoria 'Schillings'	n/a	18"	8-10"	10-12"	Yes	High		
NEB	43	Boston Fern	Nephrolepis exaltata	n/a	20"	14-16"	16"-18"	Yes	High	Full Clumps	
STJ	53	Blue Porterweed	Stachytarpheta jamaicensis	n/a	20"	16"	16-18"	Yes	High		

100% IRRIGATION COVERAGE SHALL BE PROVIDED. SEE IRRIGATION PLAN SHEETS IR-1, IR-2, & IR-3



**CITY OF HOLLYWOOD: CODE COMPLIANCE CHART**  
 CITY OF HOLLYWOOD LANDSCAPE MANUAL - SECTION 2: LANDSCAPE REQUIREMENTS  
 2420 LINCOLN STREET - HOLLYWOOD, FL

MATERIAL SPECIFICATIONS	REQUIRED	PROVIDED
<b>TREES:</b> 12" Ht, 2" DBH Min. Palm: 6' ct Min.; @3:1, max. 50% of required trees Shrubs: 24" Ht. Min.		
<b>AT-GRADE PARKING LOT AND VUA SETBACK REQUIREMENTS (6 SPACES)</b> Front - 10 ft setback; Side/Interior - 5 ft setback		
<b>STREET TREES</b> (1) Street Tree / 50 lf of street frontage of property where in said improvements are proposed Lincoln St.: 100 lf (100 #/50)	2 STREET TREES	2 STREET TREES
<b>PERIMETER LANDSCAPE &amp; BUFFERS</b> Residential Uses shall provide 5 ft landscape buffer within required setback areas with (1) Tree / 20 lf of required buffer area Lincoln St.: 100 lf - 24 lf driveway = 76 lf East: 205 lf (205 #/20) West: 205 lf (205 #/20) South: 100 lf (100 #/20) A perimeter wall or dense hedge of at least 3.5' in height	4 TREES (76 #/20) 10 TREES (205 #/20) 10 TREES (205 #/20) 5 TREES (100 #/20)	4 TREES (76 #/20) 10 TREES (205 #/20) 10 TREES (205 #/20) 5 TREES (100 #/20) Complies
<b>AT-GRADE PARKING LOT BUFFERS</b> Landscape Manual, Sec. 2.11: At-grade parking lots with more than 6 spaces shall have landscaped setbacks: Within exterior perimeter buffer strips, a hedge, decorative fence or wall, berm or other durable landscaped visual barrier, shall be installed at a height of not less than 24" Ht. (1) Shrub or Vine shall be planted / 10 lf of said barrier		Complies
<b>INTERIOR VUA LANDSCAPE</b> Terminal Islands 190 sf min. shall each contain at least (1) Tree Lots with >50 lf width: 25% of the total paved VUA shall be landscaped (6,716.53 sf X 25%)	6 TREES (6,716.53 sf)	6 TREES (6,716.53 sf)
<b>OPEN SPACE</b> RM Districts: 40% min. of the total site area shall be landscaped open space including landscaped open space located at-grade or at higher elevations such as on pool decks, parking decks, roof decks, etc. (1) Tree / 1,000 sf of Previous Area of property in addition to VUA trees (20,521 sf X 40%) (8,208.4 sf / 1000)	8,208.4 sf 8 TREES	8,208.4 sf 8 TREES
<b>TREE MITIGATION</b> Inch DBH replacement for removed Canopy Trees: 203 Inches DBH & (5) Palms Removed/Replaced = 203" DBH / 2" DBH Min. Replacement Trees = (101.5) - 2" Replacement Trees x350 each = 35,525 Palm/Palm replacement for removed Palms: (5) Palms Removed, (5) Palms required x350 each = 1750 74.5" DBH PROPOSED: 138 lf REQUIRED MITIGATION REMAINING EQ. TO 69.25 TREES X \$350 = \$24,237.50	203" DBH & (5) PALMS OR 213" DBH TOTAL	74.5" OVER CODE & \$24,237.50 TO CITY TREE FUND
<b>TOTAL TREES:</b>	45 TREES	72 TREES
<b>60% NATIVE TREES:</b>	27/45 (60%)	48/72 (66.6%)
<b>60% NATIVE SHRUBS:</b>	557/928 (60%)	584/928 (64%)

NOTE: 100% DROUGHT TOLERANT TREES & SHRUBS PROVIDED





10708 NW 12<sup>th</sup> Manor  
Plantation, FL 33322  
Ph: 305 879 7965

**FILE NO: 23-DP-26**

***1<sup>ST</sup> SITE PLAN REVIEW  
LANDSCAPE COMMENT RESPONSE LETTER***

June 29, 2023  
Via Electronic Mail

**RE: Landscape Comment Responses  
9 Unit Townhomes – 2420 Lincoln Street  
Hollywood, FL 33020**

We respectfully submit the following comment responses to *1st Site Plan Review Landscape Comments* for the new 9 Unit Townhomes to be located at *2420 Lincoln Street in the City of Hollywood, Florida*.

**H. LANDSCAPING:**

1. Revise mitigation chart: 4 palms are required to be mitigated.

**RESPONSE: A total of 5 existing Palms are proposed for removal. As such, 5 Palms are now included in the required Mitigation Calculations. See sheets L-1 Disposition Plan & Code Chart on sheet L-2 Landscape Plan.**

2. Revise mitigation chart: Multi trunk Wax Myrtle cannot be counted per trunk to meet mitigation requirements. Trees must be single trunk with a 2" dbh minimum. Revise counts and resubmit.

**RESPONSE: Wax Myrtle is no longer proposed to meet mitigation requirements. See sheet L-2 Landscape Plan for revised Plant Schedule & proposed tree mitigation, including replacement DBH inches from proposed trees provided above Code minimum size of 2" DBH & also proposed 'Replacement Trees' as noted on the Plant Schedule.**

3. Remove mitigation payment amounts if that option is not being requested.

**RESPONSE: Mitigation has been revised. See sheets L-1 Disposition Plan & Code Chart on sheet L-2 Landscape Plan.**

4. Minimum tree height for code is 12' ht. revise plant list as needed.

**RESPONSE: Tree height has been revised to be 12 ft ht minimum. See Plant Schedule on sheet L-2 Landscape Plan.**

5. Provide sight triangles on plans at intersection of driveway and property line – Sec. 155.12 (d)

**RESPONSE: See Sight Triangles at the driveway on sheet L-2 Landscape Plan. Unobstructed cross visibility is provided in the required sight triangles at heights between 30 inches & 72 inches above finish grade.**

6. Above ground equipment: Where required for screening purposes, hedge shall be planted at equipment height for visual screening.

**RESPONSE: Proposed shrubs at the meter & backflow preventer locations screen & meet or exceed the height of the equipment, as required. See General Landscape Note #26 on sheet L-3 Landscape Details & Notes for note requiring the screening of all above ground utilities.**

7. Label all sides of property whether there are 'Existing Overhead Powerlines' or 'No Overhead Powerlines'. Provide FPL approved trees for planting under powerlines.



**RESPONSE: Locations of overhead power lines are now indicated on the Landscape Plans, with dashed line clearances shown for Large & Medium Tree plantings. Proposed tree species now comply with FPL right-tree-right-place guidelines for planting adjacent to overhead power lines.**

8. Add note: 100% irrigation coverage shall be provided.

**RESPONSE: Note has been added to sheet L-2 Landscape Plan at the lower left hand corner. Note also exists on sheet IR-1 Irrigation Plan, General Irrigation Note #15.**

9. Additional comments may follow upon further review of requested items and information provided.

**RESPONSE: Acknowledged.**

10. We encourage you to reach out for any questions or clarification at [fperez@hollywoodfl.org](mailto:fperez@hollywoodfl.org) or 954-921-3900.

**RESPONSE: Acknowledged.**

If you have any questions or wish to discuss this project in further detail, please do not hesitate to contact our office at (305) 879-7965 at your convenience.

Sincerely,



A handwritten signature in black ink, appearing to read "Ryan J. King Ebrahiman".

Ryan J. King Ebrahiman, PLA LA6667324

Principal

M: (305) 879-7965



## CERTIFICATION LETTER

**City of Hollywood**

**Date:** October 12, 2023

**Applicant:** Aviva & Sam LLC

**Legal Description:** Lot 27 Block 14 of Hollywood Little Ranches Plat as recorded in Plat Book 1 Page 26 of the Public Records of Broward County, Florida.

**Address or General Location:** 2420-2430 Lincoln Street

This letter certifies that the attached list of property owners within 500 feet from each property line of the subject site was prepared using the latest tax folio rolls supplied by the Broward County Property Appraisers Office as of October 10, 2023, and Planning Department, Civic Association within 500 feet, and City Commissions.

This letter also certifies that the attached public hearing notification was sent to the persons on the list of property owners. The notice was mailed October 12, 2023.

Finally, this letter certifies that the site was posted with one public notice sign that meets the City of Hollywood notification regulations. The sign was posted October 12, 2023.

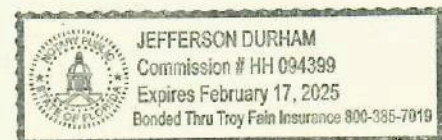
Thank You,

A handwritten signature in blue ink, appearing to read "Christina Mathews", is written over a horizontal line.

Christina Mathews

Sworn and subscribed before me this 12<sup>th</sup> day of October, 2023. She is personally known to me.

Signature of Notary



1025 Yale Drive  
Hollywood, Florida 33021  
954-920-2205

Email: cutroplanning@yahoo.com

A decorative graphic consisting of a row of seven red triangles pointing downwards, located at the bottom of the page.



## VIRTUAL COMMUNITY MEETING INVITATION

AVIVA & SAM LLC are pleased to invite you to a Public Participation Outreach Meeting for a proposed development located in your neighborhood and submitted for approval to the City of Hollywood.

### MEETING DATE:

Monday, October 30', 2023 at 5:30pm

### MEETING LOCATION:

This meeting will be a virtually meeting, Please register to attend no later than noon on October 29', 2023, by a quick email to Ronnie Shoua : [2420lincoln@gmail.com](mailto:2420lincoln@gmail.com) and we will send you the zoom link;

### PROJECT INFORMATION

explain the development plans for nine (9) unit townhome

development Address: 2420 LINCOLN ST, HOLLYWOOD, FL 33020-

3927

Comments of any interested party relative to this matter may be submitted via email and/or presented at the meeting.

Should you have any additional questions, please feel free to contact us : Ronnie Shoua (954)918-9573 or via email at: [2420lincoln@gmail.com](mailto:2420lincoln@gmail.com)



