



## **Final Drainage Report for Hillpointe Apartments at Peterson**

June 2026

HR Green Project No: 2502477

**Prepared For:**

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## Engineer's Statement

This report and plan for the drainage design of the development, Hillpointe Apartments at Peterson, was prepared by me (or under my direct supervision) and is correct to the best of my knowledge and belief. Said report and plan has been prepared in accordance with the *El Paso County Drainage Criteria* Manual and is in conformity with the master plan of the drainage basin. I understand that El Paso County does not and will not assume liability for drainage facilities designed by others. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.

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Richie Lyon, PE

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Date

State of Colorado No. 53921

For and on behalf of HR Green Development, LLC

## Developer's Statement

I, the developer, have read and will comply with all of the requirements specified in this drainage report and plan.

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Hillpointe, LLC

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Date

## El Paso County:

Filed in accordance with the requirements of the El Paso County Land Development Code, Drainage Criteria Manual, Volumes 1 and 2 and the Engineering Criteria Manual, as amended.

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Joshua J. Palmer, P.E.

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Date

County Engineer/ECM Administrator

## I. General Purpose, Location and Description

### a. Purpose

This Final Drainage Report (FDR) aims to identify specific solutions to drainage concerns resulting from the development of the site. The report outlines the onsite and offsite drainage patterns, details the existing and proposed storm infrastructure, and proposes a solution for effectively routing developed stormwater to an adequate detention facility. An existing full-spectrum detention pond within the subdivision (see PCD File SF2420) is proposed as the permanent control measure. Hydrologic and hydraulic calculations for onsite areas, along with an assessment of the existing downstream stormwater infrastructure, are provided to demonstrate compliance with County stormwater criteria and ensure that existing infrastructure is not negatively impacted by this development.

### b. Location

The Hillpointe Apartments at Peterson, legally described as Lot 1 Cimarron Hills Southeast Mixed Use Filing No. 1, totals 14.09 acres and referred to as 'the site' herein, is a portion of the west half of the southwest quarter of Section 8, Township 14 South, Range 65 West of the 6<sup>th</sup> P.M., El Paso County, Colorado. The subdivision is described in the *Cimarron Hills Southeast Mixed Use Filing No. 1 Final Drainage Report* prepared by Matrix Design Group dated September 2025. The site is bound to the north by the 80' wide public right-of-way of Meadowbrook Parkway and across the roadway is Tract A which is designated as future development. To the east of the site is the Aura Crossroads apartment complex, legally described as Lot 1 Crossroads Mixed Use Filing No. 1. To the south of the site is the public right-of-way of US Highway 24 which varies in width. Adjacent to the southwest corner of the site is Tract C, which is dedicated to detention facilities. Immediately west of the site is Tract B which is designated as future development and further west is the 100' wide public right-of-way of Peterson Road. There are no existing or proposed public roadways internal to the site. All of county assessor parcel number 5408007004 and portions of parcel numbers 5408007008 and 5408007001 are within the development limits. The property is not within a Streamside Zone or Hillside Zone. There are no no-build or preservation easements or areas within the platted parcel.

A vicinity map is presented in Appendix A.

### c. Description of Existing Conditions

The undeveloped site (zoned RM-30) contains few site improvements which include unpaved trails, abandoned softball fields, and a small concrete pad. The overall on-site imperviousness is approximately 2% and the site is sparsely vegetated by grass, shrubs, and trees. There are no structures or impervious areas on site. The site generally slopes from the northeast down to the southwest.

The site consists of 88.3% Blakeland loamy sand and 11.7% Blendon sandy loam per the USDA, NRCS web soil survey. This soil is categorized as Hydrologic Soil Group A and Group B. The NRCS soil survey is presented in Appendix A.

### d. Description of Proposed Conditions

The developed site includes apartment buildings, garages, recreational facilities, paved drive aisles, parking areas, and private utilities and storm sewer network. The nine apartment buildings are spread throughout the site, and parking spaces are provided along drive aisles. Landscape areas surround apartment buildings and are dispersed throughout the islands in parking areas. Screening along adjacent rights-of-way is provided by

landscape areas at the northern and southern edges of the site. The site is accessed by an entry on the adjacent public right-of-way of Meadowbrook Parkway to the north and an entry originating from the public right-of-way of Peterson Road to the west.

The on-site private storm includes private Type R sump and on-grate grate inlets within the drive aisles and parking areas. Roof drains and dome inlets are tied directly into secondary drainage systems surrounding apartment buildings which connect to the main storm system. The storm system is made up of two main branches that ultimately outfall into forebays within the full spectrum detention pond within Tract C. The existing private water quality and detention pond (by others, SF2420) includes an outlet structure with orifice plate and micropool that is designed to provide detention and release the stormwater at or below historic rates.

The entirety of the 14.09 acre site will be disturbed for development. Offsite disturbances for the development include connecting the site to existing public utilities owned and maintained by Cherokee Metropolitan District within Tract B, the shared entry within the Meadowbrook Parkway right-of-way, and the emergency access path within the 50 foot utility easement platted in Cimmaron Hills Southeast Mixed Use Filing No. 1.

### **e. Floodplain Statement**

Based on FEMA Firm map 08041C0754G dated December 7, 2018, the site is Zone X, which are areas determined to be outside the 0.2% annual chance flood. No portion of the site is within a designated FEMA floodplain. The site is approximately 145' away from a FEMA Flood Zone AE at the nearest boundary, located to the west and north of the site. The nearby flood zone has no bearing on the design within Lot 1.

A map is provided in Appendix A.

## **II. Drainage Basins and Subbasins**

### **a. Major Basin Description**

The site's drainage characteristics were previously studied in the following reports:

1. *Sand Creek Drainage Basin Planning Study, Preliminary Design Report* dated January 1993, revised March 1996 by Kiowa Engineering Corporation
2. *Cimmaron Hills Southeast Mixed Use Filing No. 1 Final Drainage Report*, dated September 2025, prepared by Matrix Design Group

The site is located within the Sand Creek East Fork Subbasin in the Sand Creek Drainage Basin. The East Fork Sand Creek is tributary to Sand Creek which ultimately drains to Fountain Creek. Site flows released from the offsite existing private full spectrum detention pond run west along the public roadside ditch on the north side of US Highway 24 Off Ramp to an inlet that conveys the flows under Peterson Road and to East Fork Sand Creek. Per the FDR for Cimmaron Hills Mixed Use Filing No. 1, the full spectrum detention pond releases flows from the site at or below historic rates and the downstream East Fork Sand Creek is stable with no recommendations for improvement in the DBPS. Therefore, no downstream infrastructure or detention alterations are required.

### **b. Existing Subbasin Description**

The existing subbasins were delineated based on existing drainage patterns. The on-site basins are comprised of undeveloped land. 2% imperviousness was assumed for each on site basin for analysis of historical flow.

The following basins and sub-basins have been delineated.

**Existing Basin A** has a tributary area of **0.08 acres with a minor (5-year event) runoff of 0.11 cfs and major (100-year event) runoff of 0.20 cfs**. The basin lies on the western edge of the site. Within the basin is an existing storm system and associated easement. The vegetation in the basin includes sparse grass, shrubs, and trees. Runoff generated within the basin flows west to Tract B Cimarron Hills Southeast Mixed Use Filing No. 1, designated as **Design Point 1**, as sheet flow.

**Existing Basin B** has a total tributary area of **14.01 acres with a total minor (5-year event) runoff of 3.95 cfs and major (100-year event) runoff of 26.05 cfs**. The basin includes all the on-site area except for the area in Existing Basin A. The basin contains abandoned softball fields, unpaved trails, and a single concrete pad and is analyzed as undeveloped land. The vegetation in the basin includes sparse grass, shrubs, and trees. Runoff generated within the basin flows southwest to Tract C Cimarron Hills Southeast Mixed Use Filing No. 1, designated as **Design Point 2**, as channelized flow. The basin flows ultimately flow west within the roadside ditch at the north side of U.S. Highway 24 and the offramp.

**Existing Basin OS** has a total tributary area of **0.87 acres with a total minor (5-year event) runoff of 0.29 cfs and major (100-year event) runoff of 1.94 cfs**. The basin is located south of the site and is delineated to include area draining to the analyzed cross section of the ditch. The basin accepts flows from the upstream roadside ditch and flows released from the existing private full spectrum detention pond within Tract A Crossroads Mixed Use Filing No. 1 at **Design Point 5**,  $Q_5 = 10.8$  cfs,  $Q_{100} = 19.6$  cfs. Basin OS also accepts flows from portions of U.S. Highway 24 a culvert at **Design Point 4**. The flows at **Design Point 4** were not studied in this report as they are unchanged in the developed condition, and cumulative flows within Basin OS are decreased in the developed condition. The vegetation in the basin includes sparse grass, shrubs, and trees. Runoff within the basin flows from east to west. The basin drains to **Design Point 3**, the roadside ditch north of the U.S. Highway 24 offramp to Peterson Road.

Reference maps are included in Appendix G.

### c. Proposed Subbasin Description

The Hillpointe Apartments at Peterson developed area basins and subbasins vary from the historical basins due to changes in site layout and drainage conveyance.

The following basins were delineated per the revised site layout. The on-site basins are to be zoned RM-30. Existing **Basin OS** remains unchanged.

| SUMMARY RUNOFF TABLE |           |              |             |                 |
|----------------------|-----------|--------------|-------------|-----------------|
| BASIN                | AREA (ac) | % IMPERVIOUS | $Q_5$ (cfs) | $Q_{100}$ (cfs) |
| A1.1                 | 0.27      | 95.8         | 1.21        | 2.20            |
| A1.2                 | 0.07      | 78.1         | 0.23        | 0.45            |
| A2                   | 0.49      | 80.2         | 1.69        | 3.24            |
| A3                   | 0.28      | 75.8         | 1.01        | 1.98            |
| A4.1                 | 0.49      | 77.4         | 1.77        | 3.44            |
| A4.2                 | 0.17      | 85.5         | 0.69        | 1.30            |

|      |      |      |      |      |
|------|------|------|------|------|
| A5.1 | 0.56 | 78.6 | 1.92 | 3.73 |
| A5.2 | 0.66 | 76.0 | 2.30 | 4.51 |
| A6.1 | 0.32 | 60.8 | 0.90 | 1.93 |
| A6.2 | 0.46 | 81.7 | 1.60 | 3.06 |
| A7   | 0.40 | 77.1 | 1.28 | 2.49 |
| AR1  | 0.16 | 90.0 | 0.59 | 1.10 |
| AR2  | 0.10 | 90.0 | 0.39 | 0.72 |
| AR3  | 0.12 | 90.0 | 0.44 | 0.83 |
| AR4  | 0.16 | 90.0 | 0.59 | 1.10 |
| AR5  | 0.17 | 90.0 | 0.65 | 1.21 |
| AR6  | 0.16 | 90.0 | 0.59 | 1.10 |
| B1.1 | 0.96 | 79.7 | 3.13 | 6.03 |
| B1.2 | 0.71 | 75.3 | 2.27 | 4.45 |
| B2.1 | 0.31 | 81.1 | 1.19 | 2.29 |
| B2.2 | 0.25 | 82.2 | 0.96 | 1.83 |
| B3.1 | 0.41 | 76.8 | 1.44 | 2.81 |
| B3.2 | 0.61 | 76.5 | 2.15 | 4.20 |
| B4   | 0.42 | 69.7 | 1.38 | 2.78 |
| B5   | 0.57 | 61.3 | 1.52 | 3.22 |
| B6   | 0.70 | 80.1 | 2.39 | 4.60 |
| B7   | 0.88 | 44.2 | 1.46 | 3.56 |
| BL1  | 0.36 | 21.6 | 0.36 | 1.27 |
| BR1  | 0.10 | 90.0 | 0.38 | 0.72 |
| BR2  | 0.12 | 90.0 | 0.44 | 0.83 |
| BR3  | 0.16 | 90.0 | 0.59 | 1.10 |
| BR4  | 0.17 | 90.0 | 0.65 | 1.21 |
| BR5  | 0.17 | 90.0 | 0.65 | 1.21 |
| BR6  | 0.17 | 90.0 | 0.65 | 1.21 |
| BR7  | 0.16 | 90.0 | 0.59 | 1.10 |
| BR8  | 0.33 | 90.0 | 1.24 | 2.31 |
| BR9  | 0.17 | 90.0 | 0.65 | 1.21 |
| BR10 | 0.33 | 90.0 | 1.24 | 2.31 |
| O1   | 0.18 | 20.0 | 0.18 | 0.68 |
| O2   | 0.20 | 20.0 | 0.21 | 0.77 |
| O3   | 0.15 | 69.2 | 0.48 | 0.97 |
| O4   | 0.47 | 28.2 | 0.67 | 2.03 |
| O5   | 0.16 | 70.4 | 0.54 | 1.09 |
| O6   | 0.18 | 70.7 | 0.61 | 1.23 |
| P1   | 0.17 | 26.4 | 0.22 | 0.69 |

**Design Point 1:** Runoff generated within Basin A1.1 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream pond.  $Q_5 = 1.38$  cfs,  $Q_{100} = 2.50$  cfs

**Design Point 2:** Runoff generated within Basin A1.2 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 0.23$  cfs,  $Q_{100} = 0.45$  cfs

**Design Point 3:** Runoff generated within Basin A2 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Ground runoff and runoff from the directly connected apartment building roof area, Basin AR1, ultimately enter a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 2.28$  cfs,  $Q_{100} = 4.34$  cfs

**Design Point 4:** Runoff generated within Basin A3 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 1.01$  cfs,  $Q_{100} = 1.98$  cfs

**Design Point 5:** Runoff generated within Basin A4.1 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. This inlet accepts flows from Design Point 6, the upstream inlet within Basin A4.2. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 2.46$  cfs,  $Q_{100} = 4.74$  cfs

**Design Point 6:** Runoff generated within Basin A4.2 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet which is directly connected to Design Point 5, a downstream private 5' CDOT Type R Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 0.69$  cfs,  $Q_{100} = 1.30$  cfs

**Design Point 7:** Runoff generated within Basin A5.1 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff generated from garage roof area to the surrounding landscape areas or pavement. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 1.92$  cfs,  $Q_{100} = 3.73$  cfs

**Design Point 8:** Runoff generated within Basin A5.2 sheet flows across amenity and landscape areas, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff generated from the roofs of the mail kiosk, and community center outfall to the surrounding landscape areas. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 2.30$  cfs,  $Q_{100} = 4.51$  cfs

**Design Point 9:** Runoff generated within Basin A6.1 sheet flows across amenity and landscape areas, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff generated from the roofs of the fitness center and community center outfall to the surrounding landscape areas. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 0.90$  cfs,  $Q_{100} = 1.93$  cfs

**Design Point 10:** Runoff generated within Basin A6.2 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff generated from garage roof area to the surrounding landscape areas or pavement. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 1.60$  cfs,  $Q_{100} = 3.06$  cfs

**Design Point 11:** Runoff generated within Basin A7 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 1.28$  cfs,  $Q_{100} = 2.49$  cfs

**Design Point 12:** Runoff generated within Basin B1.1 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff generated from garage roof area to the surrounding landscape areas or pavement. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream pickleball court and into the downstream pond.  $Q_5 = 3.13$  cfs,  $Q_{100} = 6.03$  cfs

**Design Point 13:** Runoff generated within Basin B1.2 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff generated from garage roof area to the surrounding landscape areas or pavement. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 2.27$  cfs,  $Q_{100} = 4.45$  cfs

**Design Point 14:** Runoff generated within Basin B2.1 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 1.19$  cfs,  $Q_{100} = 2.29$  cfs

**Design Point 15:** Runoff generated within Basin B2.2 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 0.96$  cfs,  $Q_{100} = 1.83$  cfs

**Design Point 16:** Runoff generated within Basin B3.1 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Ground runoff and runoff from the directly connected apartment building roof area, Basin BR5, ultimately enter a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 2.09$  cfs,  $Q_{100} = 4.02$  cfs

**Design Point 17:** Runoff generated within Basin B3.2 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Ground runoff and runoff from the directly connected apartment building roof area, Basin BR3, ultimately enter a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 2.15$  cfs,  $Q_{100} = 4.20$  cfs

**Design Point 18:** Runoff generated within Basin B4 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff ultimately enters a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 1.38$  cfs,  $Q_{100} = 2.78$  cfs



**Design Point 19:** Runoff generated within Basin B5 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Ground runoff and runoff from the directly connected apartment building roof area, Basin BR8, ultimately enter a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 2.76$  cfs,  $Q_{100} = 5.54$  cfs

**Design Point 20:** Runoff generated within Basin B6 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Runoff generated from garage roof area to the surrounding landscape areas or pavement. Ground runoff and runoff from the directly connected apartment building roof area, Basin BR9, ultimately enter a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 3.04$  cfs,  $Q_{100} = 5.81$  cfs

**Design Point 21:** Runoff generated within Basin B7 sheet flows across landscape area, internal drive aisles, and parking spaces until concentrating within gutters along the drive isles. Ground runoff and runoff from the directly connected apartment building roof area, Basin BR10, ultimately enter a proposed private 5' CDOT Type R Sump Inlet. The inlet's emergency overflow route is to the downstream street.  $Q_5 = 2.70$  cfs,  $Q_{100} = 5.88$  cfs

The following basins are roof area that is routed directly into the proposed private storm network through secondary drainage, and not through storm inlets: AR2, AR3, AR4, AR5, AR6, BR1, BR2, BR3, BR4, BR6, and BR7. Basin BL1 is landscape area that also is routed directly into the proposed private storm network through secondary drainage. The flows from these basins are considered in the StormCAD analysis of the storm network, provided in Appendix C.

The following inlets do not enter the proposed private storm network, and flow directly offsite.

**Basin O1 – Landscape Area (0.18 acres),  $Q_5 = 0.18$  cfs,  $Q_{100} = 0.68$  cfs**

Runoff generated within this basin sheet flows drains directly offsite into the existing public roadside ditch on the north side of the westbound exit from U.S. Highway 24 which flows to the east and ultimately under Peterson Road. Flows from developed Basin O1 into the roadside ditch are significantly less than the flows in the existing condition to the roadside ditch from existing Basin B ( $Q_5 = 3.95$  cfs,  $Q_{100} = 25.05$  cfs).

**Basin O2 – Landscape Area (0.20 acres),  $Q_5 = 0.21$  cfs,  $Q_{100} = 0.77$  cfs**

Runoff generated within this basin sheet flows directly offsite onto the adjacent Tract B within the Cimarron Hills Southeast Mixed Use Filing No. 1 subdivision. Runoff is detained and treated by the downstream existing full spectrum detention pond (SF2420).

**Basin O3 – Landscape/Pavement Area (0.15 acres),  $Q_5 = 0.48$  cfs,  $Q_{100} = 0.97$  cfs**

Runoff generated within this basin sheet flows directly offsite onto the adjacent Tract B within the Cimarron Hills Southeast Mixed Use Filing No. 1 subdivision. Runoff is detained and treated by the downstream existing full spectrum detention pond (SF2420).

**Basin O4 – Landscape/Pavement Area (0.47 acres),  $Q_5 = 0.67$  cfs,  $Q_{100} = 2.03$  cfs**

Runoff generated within this basin initially sheet flows directly offsite onto the adjacent public right of way of Meadowbrook Parkway, where it then concentrates in the curb and gutter and is collected by public curb inlets. The public storm network conveys flows to the public/private storm network connection located at the site entry, which ultimately directs runoff to the existing private full spectrum detention pond. Runoff is detained and treated by this downstream facility (SF2420).

**Basin O5 – Landscape/Emergency Access Path (0.16 acres),  $Q_5 = 0.54$  cfs,  $Q_{100} = 1.09$  cfs**

Runoff generated within this basin sheet flows directly offsite to the southwest, where it is ultimately conveyed under Peterson Road. This area is excluded from water quality treatment requirement per ECM App I.7.1.C.1 as the areas used in this exclusion do not exceed 20 percent of the development site or 1 acre total.

**Basin O6 – Landscape/Emergency Access Path (0.18 acres),  $Q_5 = 0.61$  cfs,  $Q_{100} = 1.23$  cfs**

Runoff generated within this basin sheet flows directly offsite to the southwest, where it is ultimately conveyed under Peterson Road. This area is excluded from water quality treatment requirement per ECM App I.7.1.C.1 as the areas used in this exclusion do not exceed 20 percent of the development site or 1 acre total.

**Basin P1 – Landscape Area (0.17 acres),  $Q_5 = 0.22$  cfs,  $Q_{100} = 0.69$  cfs**

This basin sheet flows directly offsite into the adjacent existing private full spectrum detention pond in Tract C within the Cimarron Hills Southeast Mixed Use Filing No. 1 subdivision where the runoff is detained and treated.

**d. Downstream Drainage**

This development drains to an existing private off-site full spectrum detention facility that provides treatment and detention of stormwater runoff. The actual site area and imperviousness differ slightly from the values used to size for the private pond in the *Cimarron Hills Southeast Mixed Use Filing No. 1 Final Drainage Report* prepared by Matrix Design Group as part of the Final Plat application SF2420, and so modifications are necessary for it to continue functioning as intended. Additional infrastructure is required to connect the private storm within this project to the private pond offsite. This is discussed further in Section IV of this report. The private off-site pond includes an outlet pipe that drains to the roadside drainage ditch within the public right-of-way of U.S. Highway 24. The public ditch conveys stormwater due west, ultimately to East Fork Sand Creek. Per the FDR by Matrix, the detention pond releases flows at or below historical rates and therefore no improvements to East Fork Sand Creek are proposed. It is anticipated that there will be no negative impacts to downstream properties, developments, or infrastructure due to this development.

### III. Drainage Design Criteria

**a. Development Criteria Reference**

The drainage analysis of existing and proposed storm sewer system follows the criteria from the *El Paso County Drainage Criteria Manual Volumes 1 and 2* (EPC DCM, latest revision October 2018).

**b. Hydrologic Criteria**

Hydrologic data was obtained from the *El Paso County, Colorado Drainage Criteria Manual – Chapter 5 Storm Runoff Methods of Analysis*. Runoff was calculated per *El Paso County, Colorado Drainage Criteria Manual – Section 5.2 - Rational Method*. Onsite drainage improvements are designed for the 5-year storm (minor event) and 100-year storm (major event) using rainfall values from NOAA Atlas 14 below.

| Rainfall Depths for Site Location |      |      |
|-----------------------------------|------|------|
| Return Period (yr)                | 5    | 100  |
| 1-hr Rainfall Depth (in)          | 1.50 | 2.52 |

Private, full spectrum pond design was completed using the latest version of Mile High Flood District's (MHFD) UD-Detention per EPCDCM guidelines. Detention pond allowable release rate are limited to less than historic rates.

### **c. Hydraulic Criteria**

Hydraulic criteria for inlet sizing was obtained from the *El Paso County, Colorado Drainage Criteria Manual – Chapter 7 Street Drainage and Storm Water Inlets* and the UD-Inlet calculator. Hydraulic criteria for storm sewer culverts were obtained from the *El Paso County, Colorado Drainage Criteria Manual – Chapter 9 Culvert Design*. Hydraulic criteria for swale sizing was obtained from the *El Paso County, Colorado Drainage Criteria Manual – Chapter 10 Open Channels and Structures*.

Proposed drive aisle capacities are analyzed utilizing hydraulic modeling (AutoCAD Civil 3D channel analysis tool) by designing the pavement sections as user-defined channels with the proper Manning's coefficient, geometry of designed sections, and slopes. These user-defined capacity calculations are provided to determine the minor 5-year storm and major 100-year storm capacities in various areas of interest.

Storm sewer system modeling is provided in Appendix C. The hydraulic model was developed using Bentley StormCAD to assess and size private inlets and pipes, ensuring that both minor and major hydraulic grade lines comply with applicable stormwater design criteria. Table 9-4 StormCAD Standard Method Coefficients from *City of Colorado Springs, Drainage Criteria Manual, Volume 1* were used for the analysis. All proposed storm pipes are within 80% capacity for the minor storm event and do not surcharge the system to within 1' of all storm manhole rim elevations for the major storm event. The hydraulic grade lines for the minor and major storm at the outfall point of pipes that drain to the proposed private pond are set at the appropriate detention water surface elevations for tailwater conditions.

## **IV. Drainage Facility Design**

### **a. General Concept**

Overland runoff areas include roof runoff from apartment buildings as well as initial overland sheet flow within paved drive aisles and across landscaped areas. On-site stormwater runoff is conveyed as channelized flow within on-site curb and gutter and drainage pans that drain to proposed curb inlets at sump locations. Runoff continues downstream as channelized flow within the two main branches of proposed private on-site storm sewer system. The west branch drains to an existing on-site storm manhole upstream of the existing private off-site full spectrum detention pond, and the east branch drains directly to the forebay on the east side of the existing pond. The existing private off-site pond was assessed for the proposed site area and imperviousness to meet stormwater criteria and treats runoff from the site and releases it at or below historical rates.

### **b. Basin Design Criteria**

The MHFD-Detention spreadsheet was used to design the existing private basin and outlet structure. The 1-hour rainfall depths for the 2, 5, 10, 25, 50, and 100 year storm events used in the spreadsheet were obtained from Table 6-2 Rainfall Depths for Colorado Springs within the EPC DCM. These rainfall depths are 1.19, 1.50, 1.75, 2.00, 2.25, and 2.52 inches, respectively.

### c. Water Quality & Detention

Water quality treatment is provided for all applicable areas of the site excluded areas which do not exceed 20 percent of the development site or 1 acre per the El Paso County base design standard requirements. The development area within Basin O1 is excluded from water quality treatment, per the El Paso County base design standard requirements (ECM App I.7.1.B.7), as it is disturbance to undeveloped land that will remain undeveloped. The existing private off-site full spectrum detention pond provides water quality treatment by facilitating the settling of suspended sediments and the capture of pollutants prior to controlled discharge from the site.

Full spectrum detention is provided by the existing private off-site full spectrum detention basin, owned and maintained by the HOA. The total site area tributary to the detention basin is 14.10 acres and has 72.9% effective imperviousness. Included in Appendix E are the Rational Method hydrologic calculations and drainage maps from the FDR by Matrix which include the full site area (Basin P-5) at an assumed imperviousness of 85% for neighborhood areas. An adjusted MHFD-Detention spreadsheet with modified orifice plate is provided in Appendix D to account for the lower developed site imperviousness than assumed. Additional pond infrastructure required for the development includes a proposed forebay and trickle channel on the east side of the pond. The forebay and trickle channel dimensions are provided in Appendix D. The design follows stormwater criteria for full spectrum detention, and the release rate is 40 hours for WQCV, 72 hours for the EUBV and 72 hours for the 100-year storm events.

**HRG Response:**  
Added maint. path  
and orifice plate  
swap to pond  
modifications.

Cost estimate also includes a section of  
maintenance access road and an orifice plate.

### d. Major Drainageways

There are no formal major drainageways within the project boundary. The development lies within the Sand Creek East Fork Subbasin in the Sand Creek Drainage Basin, previously studied in the *Sand Creek Drainage Basin Planning Study, Preliminary Design Report* dated January 1993, revised March 1996 by Kiowa Engineering Corporation. The East Fork Sand Creek is tributary to Sand Creek which ultimately drains to Fountain Creek. Stormwater from the site is released from the off-site existing private full spectrum detention pond and runs west along the public roadside ditch on the north side of US Highway 24 Off Ramp under Peterson Road and ultimately to East Fork Sand Creek. Per the FDR for Cimmaron Hills Mixed Use Filing No. 1, the full spectrum detention pond releases flows from the site at or below historic rates and the downstream East Fork Sand Creek is stable with no recommendations for improvement in the DBPS. There are no anticipated negative impacts to surrounding and downstream developments, stormwater infrastructure, or drainageways. Therefore, no downstream infrastructure or detention alterations are required.

### e. Grading and Erosion Control Plan

Due to the project disturbance area, a separate Grading and Erosion Control plan will be required. The Grading and Erosion Control Plan will be submitted for review and approval with subsequent submittals of this FDR.

### f. Four Step Method to Minimize Adverse Impacts of Urbanization

**Step 1 – Reducing Runoff Volumes:** Roof drains and sidewalks will route across landscaped areas whenever possible to slow runoff and promote infiltration prior to entering landscape drains and the main storm sewer system. Landscape areas are stabilized with permanent seeding for lawn areas, shrubbery and trees, and ornamental landscaping. Landscape buffers are provided along the border of the property to provide runoff reduction to areas of the site that flow directly off-site.

**Step 2 – Treat and slowly release the WQCV:** The runoff from the site is treated through the capture and slow WQCV via the existing private off-site full spectrum detention Pond 1 (SF2420).

A table summarizing the water quality treatment within the site is provided below:

| Water Quality Treatment Summary Table |                 |                                    |                                   |                                                            |                                                            |
|---------------------------------------|-----------------|------------------------------------|-----------------------------------|------------------------------------------------------------|------------------------------------------------------------|
| Basin ID                              | Total Area (ac) | Total Proposed Disturbed Area (ac) | Area Trib to Pond 1 (SF2420) (ac) | Disturbed Area Excluded from WQ per ECM App I.7.1.C.1 (ac) | Disturbed Area Excluded from WQ per ECM App I.7.1.B.7 (ac) |
| A1.1                                  | 0.27            | 0.27                               | 0.27                              |                                                            |                                                            |
| A1.2                                  | 0.07            | 0.07                               | 0.07                              |                                                            |                                                            |
| A2                                    | 0.49            | 0.49                               | 0.49                              |                                                            |                                                            |
| A3                                    | 0.28            | 0.28                               | 0.28                              |                                                            |                                                            |
| A4.1                                  | 0.49            | 0.49                               | 0.49                              |                                                            |                                                            |
| A4.2                                  | 0.17            | 0.17                               | 0.17                              |                                                            |                                                            |
| A5.1                                  | 0.56            | 0.56                               | 0.56                              |                                                            |                                                            |
| A5.2                                  | 0.66            | 0.66                               | 0.66                              |                                                            |                                                            |
| A6.1                                  | 0.32            | 0.32                               | 0.32                              |                                                            |                                                            |
| A6.2                                  | 0.46            | 0.46                               | 0.46                              |                                                            |                                                            |
| A7                                    | 0.40            | 0.40                               | 0.40                              |                                                            |                                                            |
| AR1                                   | 0.16            | 0.16                               | 0.16                              |                                                            |                                                            |
| AR2                                   | 0.10            | 0.10                               | 0.10                              |                                                            |                                                            |
| AR3                                   | 0.12            | 0.12                               | 0.12                              |                                                            |                                                            |
| AR4                                   | 0.16            | 0.16                               | 0.16                              |                                                            |                                                            |
| AR5                                   | 0.17            | 0.17                               | 0.17                              |                                                            |                                                            |
| AR6                                   | 0.16            | 0.16                               | 0.16                              |                                                            |                                                            |
| B1.1                                  | 0.96            | 0.96                               | 0.96                              |                                                            |                                                            |
| B1.2                                  | 0.71            | 0.71                               | 0.71                              |                                                            |                                                            |
| B2.1                                  | 0.31            | 0.31                               | 0.31                              |                                                            |                                                            |
| B2.2                                  | 0.25            | 0.25                               | 0.25                              |                                                            |                                                            |
| B3.1                                  | 0.41            | 0.41                               | 0.41                              |                                                            |                                                            |
| B3.2                                  | 0.61            | 0.61                               | 0.61                              |                                                            |                                                            |
| B4                                    | 0.42            | 0.42                               | 0.42                              |                                                            |                                                            |
| B5                                    | 0.57            | 0.57                               | 0.57                              |                                                            |                                                            |
| B6                                    | 0.70            | 0.70                               | 0.70                              |                                                            |                                                            |
| B7                                    | 0.88            | 0.88                               | 0.88                              |                                                            |                                                            |
| BL1                                   | 0.36            | 0.36                               | 0.36                              |                                                            |                                                            |
| BR1                                   | 0.10            | 0.10                               | 0.10                              |                                                            |                                                            |
| BR2                                   | 0.12            | 0.12                               | 0.12                              |                                                            |                                                            |

| BR3                                        | 0.16                                           | 0.16                                         | 0.16                                                         |                       |      |
|--------------------------------------------|------------------------------------------------|----------------------------------------------|--------------------------------------------------------------|-----------------------|------|
| BR4                                        | 0.17                                           | 0.17                                         | 0.17                                                         |                       |      |
| BR5                                        | 0.17                                           | 0.17                                         | 0.17                                                         |                       |      |
| BR6                                        | 0.17                                           | 0.17                                         | 0.17                                                         |                       |      |
| BR7                                        | 0.16                                           | 0.16                                         | 0.16                                                         |                       |      |
| BR8                                        | 0.33                                           | 0.33                                         | 0.33                                                         |                       |      |
| BR9                                        | 0.17                                           | 0.17                                         | 0.17                                                         |                       |      |
| BR10                                       | 0.33                                           | 0.33                                         | 0.33                                                         |                       |      |
| O1                                         | 0.18                                           | 0.18                                         | 0.00                                                         |                       | 0.18 |
| O2                                         | 0.20                                           | 0.20                                         | 0.20                                                         |                       |      |
| O3                                         | 0.15                                           | 0.15                                         | 0.15                                                         |                       |      |
| O4                                         | 0.47                                           | 0.47                                         | 0.47                                                         |                       |      |
| O5                                         | 0.16                                           | 0.16                                         | 0.00                                                         | 0.16                  |      |
| O6                                         | 0.18                                           | 0.18                                         | 0.00                                                         | 0.18                  |      |
| P1                                         | 0.17                                           | 0.17                                         | 0.17                                                         |                       |      |
| Total                                      | 14.62                                          | 14.62                                        | 14.10                                                        | 0.34                  | 0.18 |
| Min Required Area<br>to Receive WQ<br>(ac) | Total<br>Proposed<br>Disturbed<br>Area<br>(ac) | Total<br>Proposed<br>Treated<br>Area<br>(ac) | Total Proposed<br>Disturbed Area<br>Excluded from WQ<br>(ac) | Net Treatment<br>(ac) |      |
| 14.10                                      | 14.62                                          | 14.10                                        | 0.52                                                         | 0.00                  |      |

**Step 3 – Stabilize stream channels:** On-site stormwater is released by the existing off-site private full spectrum detention pond into the public roadside ditch at the south of the site at rates less than or equal to historical rates. The development decreases runoff released directly off-site into the public roadside ditch at the south of the site compared to historical rates, which helps to stabilize the channelized flow.

All new and redevelopment projects are required to construct or participate in the funding of channel stabilization measures. Drainage basin fees were paid at the time of platting to go towards channel stabilization within the drainage basin, therefore there are no public drainageway improvements required or proposed as a part of this development.

**Step 4 – Consider the need for source controls:** No industrial uses are proposed within this development and therefore no industrial source controls are proposed. The developed area is not anticipated to have uses that would require commercial source controls such as a grease trap/interceptor at this time. Should the uses of that building change, the appropriate source controls will be implemented to meet code requirements.

## g. Drainage and Bridge Fees

For the Sand Creek Drainage Basin, the 2026 Drainage Fee is \$28,160 per impervious acre and the 2026 Bridge Fee is \$11,518 per impervious acre. The fees are to be paid at the time of final plat recording.

14.09 acres x 72.9% imperviousness = 10.27 Impervious Acres

\$28,160 x 10.27 Impervious Acres = \$289,203.20 (2026 Drainage Fee)

\$11,518 x 10.27 Impervious Acres = \$118,289.86 (2026 Bridge Fee)

## h. Hydraulic Grade Line Calculations

Hydraulic Grade Line analysis for the storm network is presented in Appendix C.

## V. Permanent Control Measure Cost Estimate

| Pond 1 (SF2420) Improvements Cost Estimate |      |      |               |                    |
|--------------------------------------------|------|------|---------------|--------------------|
| Item                                       | Unit | Qty. | Unit Estimate | Total Estimate     |
| Orifice Plate                              | EA   | 1    | \$500.00      | \$500.00           |
| Forebay                                    | EA   | 1    | \$22,500.00   | \$22,500.00        |
| Concrete Trickle Channel                   | LF   | 134  | \$105.00      | \$14,070.00        |
| Handrail                                   | LF   | 39   | \$100.50      | \$3,919.50         |
| Stabilization Bedding                      | TN   | 50   | \$37.50       | \$1,875.00         |
| Concrete Pump Truck                        | EA   | 3    | \$875.00      | \$2,625.00         |
| Road Base                                  | CY   | 169  | \$71.00       | \$11,999.00        |
| 36" RCP                                    | LF   | 96   | \$191.00      | \$18,336.00        |
|                                            |      |      | <b>Total</b>  | <b>\$75,824.50</b> |

## VI. Summary

The Hillpointe Apartments at Peterson development remains consistent with drainage patterns and site area imperviousness used for calculations and design in the *Cimarron Hills Southeast Filing No. 1 Final Drainage Report* by Matrix Design Group. The proposed development will not adversely affect downstream stormwater infrastructure or surrounding developments. This report meets the latest El Paso County Drainage criteria and is in accordance with previous reports. This Final Drainage Report presents the amended site layout and the resultant drainage changes with design solutions for these revisions.

## VII. Drawings

Please refer to the appendices for vicinity and drainage basin maps.

## VIII. References

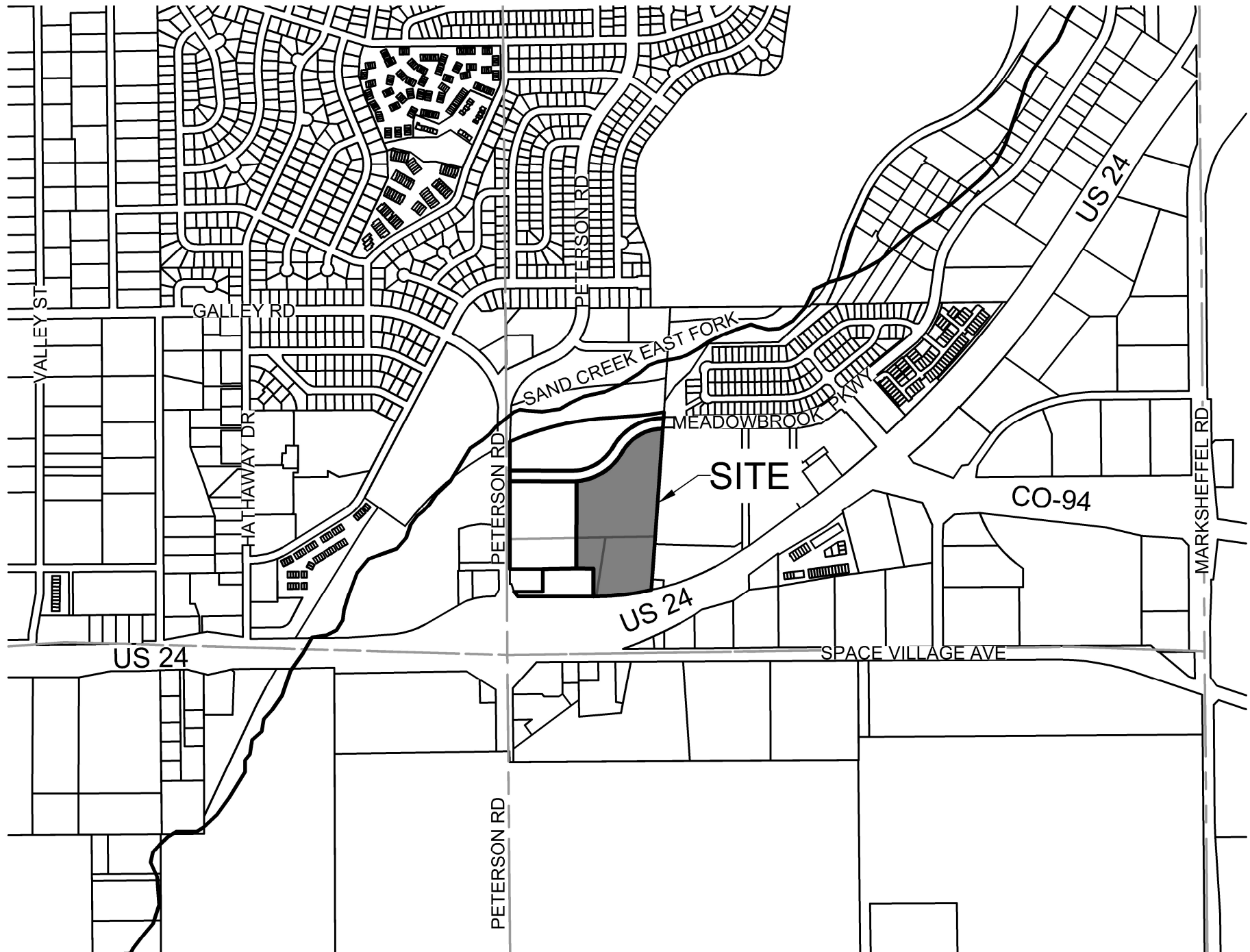
1. El Paso County – Drainage Criteria Manual Volume 1, Revised October 2018.
2. El Paso County – Drainage Criteria Manual Volume 2, Revised October 2018.
3. Urban Storm Drainage Criteria Manual, Urban Drainage Flood Control District, January 2018.
4. Cimarron Hills Southeast Mixed Use Filing No. 1 Final Drainage Report, Matrix Design Group, September 2025 (SF2420)
5. Final Drainage Report for Crossroads Mixed Use Filing No. 1, MS Civil Consultants, Inc., April 2022 (SF21-029)
6. Sand Creek Drainage Basin Planning Study, Preliminary Design Report, Kiowa Engineering Corporation, January 1993, revised March 1996



## **APPENDIX A – VICINITY MAP, SOIL MAP, FEMA MAP**

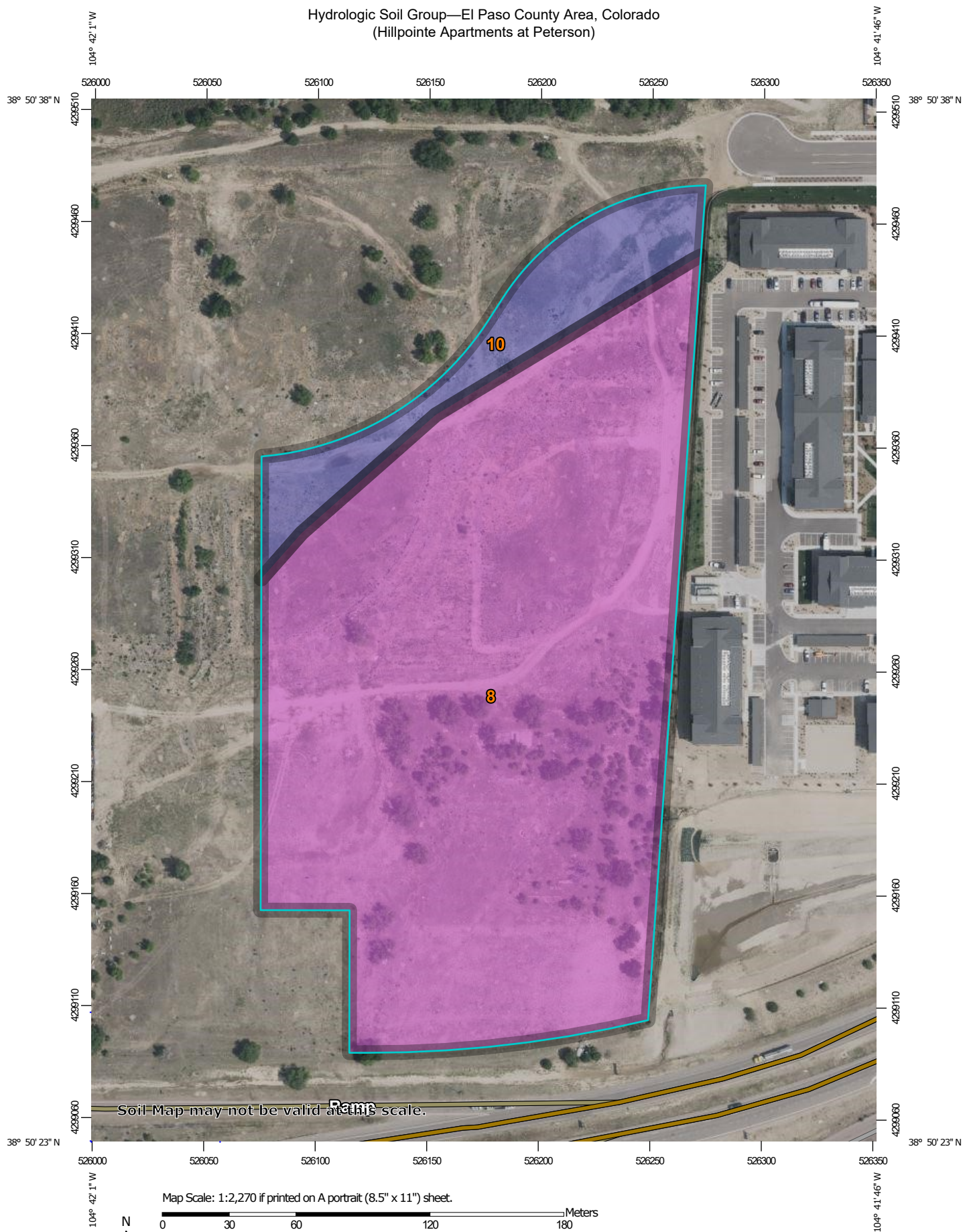


**VICINITY MAP**  
HILLPOINTE APARTMENTS AT PETERSON

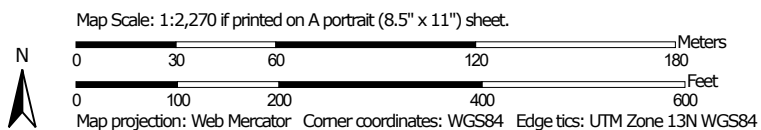


SCALE: 1" = 1000'

# Hydrologic Soil Group—El Paso County Area, Colorado (Hillpointe Apartments at Peterson)



Soil Map may not be valid at this scale.



**Natural Resources  
Conservation Service**

Web Soil Survey  
National Cooperative Soil Survey

3/5/2026  
Page 1 of 4

Hydrologic Soil Group—El Paso County Area, Colorado  
(Hillpointe Apartments at Peterson)

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Lines

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Points

 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available

### Water Features

 Streams and Canals

### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado  
Survey Area Data: Version 23, Aug 29, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 23, 2024—Aug 4, 2024

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Hydrologic Soil Group

| Map unit symbol                    | Map unit name                               | Rating | Acres in AOI | Percent of AOI |
|------------------------------------|---------------------------------------------|--------|--------------|----------------|
| 8                                  | Blakeland loamy sand, 1 to 9 percent slopes | A      | 12.4         | 88.3%          |
| 10                                 | Blendon sandy loam, 0 to 3 percent slopes   | B      | 1.6          | 11.7%          |
| <b>Totals for Area of Interest</b> |                                             |        | <b>14.1</b>  | <b>100.0%</b>  |

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff: None Specified*

*Tie-break Rule: Higher*



## **APPENDIX B – HYDROLOGIC CALCULATIONS**

**HILLPOINTE AT PETERSON****EXISTING CONDITIONS****EL PASO COUNTY, CO****Calc'd by:****CMD****Checked by:****RDL****Date:****6/4/2026****SUMMARY RUNOFF TABLE**

| BASIN | AREA (ac) | % IMPERVIOUS | Q <sub>5</sub> (cfs) | Q <sub>100</sub> (cfs) |
|-------|-----------|--------------|----------------------|------------------------|
| A     | 0.08      | 2            | 0.03                 | 0.20                   |
| B     | 14.01     | 2            | 3.95                 | 26.05                  |
| OS    | 0.87      | 2            | 0.29                 | 1.94                   |

**DESIGN POINT SUMMARY TABLE**

| DESIGN POINT | CONTRIBUTING BASINS          | ΣQ <sub>5</sub> (cfs) | ΣQ <sub>100</sub> (cfs) |
|--------------|------------------------------|-----------------------|-------------------------|
| 1            | A                            | 0.03                  | 0.20                    |
| 2            | B                            | 3.95                  | 26.05                   |
| 3            | OS, DP2, DP4, DP5            | 15.04                 | 47.59                   |
| 4            | OFFSITE US HWY 24            | -                     | -                       |
| 5            | OS-2, POND 1 OUT (SF-21-029) | 10.8                  | 19.6                    |



**HILLPOINTE AT PETERSON**  
**EXISTING CONDITIONS**  
**EL PASO COUNTY, CO**

**Calc'd by:** CMD  
**Checked by:** RDL  
**Date:** 6/4/2026

**SOIL TYPE: HSG A&B**

| COMPOSITE 'C' FACTORS |               |                |                  |                 |                |                  |                                      |                |                  |       |                                     |                |                  |
|-----------------------|---------------|----------------|------------------|-----------------|----------------|------------------|--------------------------------------|----------------|------------------|-------|-------------------------------------|----------------|------------------|
| BASIN                 | LAND USE TYPE |                |                  |                 |                |                  |                                      |                |                  | TOTAL | COMPOSITE IMPERVIOUSNESS & C FACTOR |                |                  |
|                       | Roofs         |                |                  | Drive and Walks |                |                  | Historic Flow Analysis-- Greenbelts, |                |                  |       |                                     |                |                  |
|                       |               |                |                  |                 |                |                  |                                      |                |                  |       |                                     |                |                  |
|                       | %I            | C <sub>5</sub> | C <sub>100</sub> | %I              | C <sub>5</sub> | C <sub>100</sub> | %I                                   | C <sub>5</sub> | C <sub>100</sub> |       |                                     |                |                  |
|                       | 90            | 0.73           | 0.81             | 100             | 0.90           | 0.96             | 2                                    | 0.09           | 0.36             |       |                                     |                |                  |
|                       | ACRES         |                |                  | ACRES           |                |                  | ACRES                                |                |                  | ACRES | %I                                  | C <sub>5</sub> | C <sub>100</sub> |
| A                     | 0.00          |                |                  | 0.00            |                |                  | 0.08                                 |                |                  | 0.08  | 2.00                                | 0.09           | 0.36             |
| B                     | 0.00          |                |                  | 0.03            |                |                  | 13.97                                |                |                  | 14.01 | 2.24                                | 0.09           | 0.36             |
| OS                    | 0.00          |                |                  | 0.00            |                |                  | 0.87                                 |                |                  | 0.87  | 2.00                                | 0.09           | 0.36             |
| ON-SITE               | 0.00          |                |                  | 0.03            |                |                  | 14.06                                |                |                  | 14.09 | 2.24                                | 0.09           | 0.36             |
| OFF-SITE              | 0.00          |                |                  | 0.00            |                |                  | 0.87                                 |                |                  | 0.87  | 2.00                                | 0.09           | 0.36             |
| TOTAL                 | 0.00          |                |                  | 0.03            |                |                  | 14.93                                |                |                  | 14.96 | 2.22                                | 0.09           | 0.36             |



|                                                                                  |                               |           |                                      |         |                      |                                    |             |                    |          |                      |                      |                      |                  |
|----------------------------------------------------------------------------------|-------------------------------|-----------|--------------------------------------|---------|----------------------|------------------------------------|-------------|--------------------|----------|----------------------|----------------------|----------------------|------------------|
|  | <b>HILLPOINTE AT PETERSON</b> |           |                                      |         |                      |                                    |             | <b>Calc'd by:</b>  |          | <b>CMD</b>           |                      |                      |                  |
|                                                                                  | <b>EXISTING CONDITIONS</b>    |           |                                      |         |                      |                                    |             | <b>Checked by:</b> |          | <b>RDL</b>           |                      |                      |                  |
|                                                                                  | <b>EL PASO COUNTY, CO</b>     |           |                                      |         |                      |                                    |             | <b>Date:</b>       |          | <b>6/4/2026</b>      |                      |                      |                  |
| <b>TIME OF CONCENTRATION</b>                                                     |                               |           |                                      |         |                      |                                    |             |                    |          |                      |                      |                      |                  |
| <b>BASIN DATA</b>                                                                |                               |           | <b>OVERLAND TIME (T<sub>i</sub>)</b> |         |                      | <b>TRAVEL TIME (T<sub>t</sub>)</b> |             |                    |          |                      | <b>TOTAL</b>         | <b>tc=(L/180)+10</b> | <b>Design tc</b> |
| DESIGNATION                                                                      | C <sub>5</sub>                | AREA (ac) | LENGTH (ft)                          | SLOPE % | t <sub>i</sub> (min) | C <sub>V</sub>                     | LENGTH (ft) | SLOPE %            | V (ft/s) | t <sub>t</sub> (min) | t <sub>c</sub> (min) | tc max               | tc design (min)  |
| A                                                                                | 0.09                          | 0.08      | 120                                  | 2.1     | 15.7                 | 7                                  | 150         | 2.1                | 1.0      | 2.4                  | 18.2                 | 11.5                 | 11.5             |
| B                                                                                | 0.09                          | 14.01     | 300                                  | 1.7     | 26.9                 | 7                                  | 1558        | 1.7                | 0.9      | 28.6                 | 55.6                 | 20.3                 | 20.3             |
| OS                                                                               | 0.09                          | 0.87      | 70                                   | 1.5     | 13.7                 | 7                                  | 532         | 1.5                | 0.8      | 10.5                 | 24.2                 | 13.3                 | 13.3             |

Table 6-7. Conveyance Coefficient, C<sub>v</sub>

$$t_i = \frac{0.395(1.1 - C_s)\sqrt{L}}{S^{0.33}}$$

$$V = C_v S_w^{0.5}$$

| Type of Land Surface                 | C <sub>v</sub> |
|--------------------------------------|----------------|
| Heavy meadow                         | 2.5            |
| Tillage/field                        | 5              |
| Riprap (not buried)*                 | 6.5            |
| Short pasture and lawns              | 7              |
| Nearly bare ground                   | 10             |
| Grassed waterway                     | 15             |
| Paved areas and shallow paved swales | 20             |

\*For buried riprap, select C<sub>v</sub> value based on type of vegetative cover.

| <div></div> <div>HRGreen</div> |              |          | HILLPOINTE AT PETERSON |                |                      |                        |              |         |                      |                        |              |         |                           |                        | Calc'd by:  |                         | CMD                    |         |                |             |             |                   |         |  |  |  |
|----------------------------------------------------------------------------------------------------------------|--------------|----------|------------------------|----------------|----------------------|------------------------|--------------|---------|----------------------|------------------------|--------------|---------|---------------------------|------------------------|-------------|-------------------------|------------------------|---------|----------------|-------------|-------------|-------------------|---------|--|--|--|
|                                                                                                                |              |          | EXISTING CONDITIONS    |                |                      |                        |              |         |                      |                        |              |         |                           |                        | Checked by: |                         | RDL                    |         |                |             |             |                   |         |  |  |  |
|                                                                                                                |              |          | DESIGN STORM: 5-YEAR   |                |                      |                        |              |         |                      |                        |              |         |                           |                        | Date:       |                         | 6/4/2026               |         |                |             |             |                   |         |  |  |  |
|                                                                                                                |              |          |                        |                |                      |                        |              |         |                      |                        |              |         |                           |                        |             |                         |                        |         |                |             |             |                   |         |  |  |  |
|                                                                                                                |              |          | DIRECT RUNOFF          |                |                      |                        |              |         | TOTAL RUNOFF         |                        |              |         | STREET                    |                        |             | PIPE                    |                        |         |                | TRAVEL TIME |             |                   | REMARKS |  |  |  |
| STRUCTURE                                                                                                      | DESIGN POINT | BASIN ID | AREA (ac)              | C <sub>5</sub> | t <sub>c</sub> (min) | C <sub>5</sub> *A (ac) | I (in./ hr.) | Q (cfs) | t <sub>c</sub> (min) | C <sub>5</sub> *A (ac) | I (in./ hr.) | Q (cfs) | Q <sub>street</sub> (cfs) | C <sub>5</sub> *A (ac) | SLOPE %     | Q <sub>PIPE</sub> (cfs) | C <sub>5</sub> *A (ac) | SLOPE % | PIPE SIZE (ft) | LENGTH (ft) | VEL. (ft/s) | TRAVEL TIME (min) |         |  |  |  |
|                                                                                                                | 1            | A        | 0.08                   | 0.09           | 11.5                 | 0.01                   | 3.92         | 0.03    |                      |                        |              |         |                           |                        |             |                         |                        |         |                |             |             |                   |         |  |  |  |
|                                                                                                                | 2            | B        | 14.01                  | 0.09           | 20.3                 | 1.29                   | 3.07         | 3.95    |                      |                        |              |         |                           |                        |             |                         |                        |         |                |             |             |                   |         |  |  |  |
|                                                                                                                | 3            | OS       | 0.87                   | 0.09           | 13.3                 | 0.08                   | 3.70         | 0.29    |                      |                        |              |         |                           |                        |             |                         |                        |         |                |             |             |                   |         |  |  |  |

| <div></div> |              |          | HILLPOINTE AT PETERSON |                  |                      |                           |              |         |                      |                           |              |         |                           |                           | Calc'd by:  |                         | CMD                       |         |                |             |             |                   |         |  |  |  |
|---------------------------------------------------------------------------------------------|--------------|----------|------------------------|------------------|----------------------|---------------------------|--------------|---------|----------------------|---------------------------|--------------|---------|---------------------------|---------------------------|-------------|-------------------------|---------------------------|---------|----------------|-------------|-------------|-------------------|---------|--|--|--|
|                                                                                             |              |          | EXISTING CONDITIONS    |                  |                      |                           |              |         |                      |                           |              |         |                           |                           | Checked by: |                         | RDL                       |         |                |             |             |                   |         |  |  |  |
|                                                                                             |              |          | DESIGN STORM: 100-YEAR |                  |                      |                           |              |         |                      |                           |              |         |                           |                           | Date:       |                         | 6/4/2026                  |         |                |             |             |                   |         |  |  |  |
|                                                                                             |              |          |                        |                  |                      |                           |              |         |                      |                           |              |         |                           |                           |             |                         |                           |         |                |             |             |                   |         |  |  |  |
|                                                                                             |              |          | DIRECT RUNOFF          |                  |                      |                           |              |         | TOTAL RUNOFF         |                           |              |         | STREET                    |                           |             | PIPE                    |                           |         |                | TRAVEL TIME |             |                   | REMARKS |  |  |  |
| STRUCTURE                                                                                   | DESIGN POINT | BASIN ID | AREA (ac)              | C <sub>100</sub> | t <sub>c</sub> (min) | C <sub>100</sub> * A (ac) | I (in./ hr.) | Q (cfs) | t <sub>c</sub> (min) | C <sub>100</sub> * A (ac) | I (in./ hr.) | Q (cfs) | Q <sub>street</sub> (cfs) | C <sub>100</sub> * A (ac) | SLOPE %     | Q <sub>PIPE</sub> (cfs) | C <sub>100</sub> * A (ac) | SLOPE % | PIPE SIZE (ft) | LENGTH (ft) | VEL. (ft/s) | TRAVEL TIME (min) |         |  |  |  |
|                                                                                             | 1            | A        | 0.08                   | 0.36             | 11.5                 | 0.03                      | 6.58         | 0.20    |                      |                           |              |         |                           |                           |             |                         |                           |         |                |             |             |                   |         |  |  |  |
|                                                                                             | 2            | B        | 14.01                  | 0.36             | 20.3                 | 5.06                      | 5.15         | 26.05   |                      |                           |              |         |                           |                           |             |                         |                           |         |                |             |             |                   |         |  |  |  |
|                                                                                             | 3            | OS       | 0.87                   | 0.36             | 13.3                 | 0.31                      | 6.21         | 1.94    |                      |                           |              |         |                           |                           |             |                         |                           |         |                |             |             |                   |         |  |  |  |



# HILLPOINTE APARTMENTS AT PETERSON

## PROPOSED CONDITIONS

EL PASO COUNTY, CO

Calc'd by:

CMD

Checked by:

RDL

Date:

6/19/2026

SUMMARY RUNOFF TABLE

| BASIN | AREA (ac) | % IMPERVIOUS | Q <sub>5</sub> (cfs) | Q <sub>100</sub> (cfs) |
|-------|-----------|--------------|----------------------|------------------------|
| A1.1  | 0.27      | 95.8         | 1.21                 | 2.20                   |
| A1.2  | 0.07      | 78.1         | 0.23                 | 0.45                   |
| A2    | 0.49      | 80.2         | 1.69                 | 3.24                   |
| A3    | 0.28      | 75.8         | 1.01                 | 1.98                   |
| A4.1  | 0.49      | 77.4         | 1.77                 | 3.44                   |
| A4.2  | 0.17      | 85.5         | 0.69                 | 1.30                   |
| A5.1  | 0.56      | 78.6         | 1.92                 | 3.73                   |
| A5.2  | 0.66      | 76.0         | 2.30                 | 4.51                   |
| A6.1  | 0.32      | 60.8         | 0.90                 | 1.93                   |
| A6.2  | 0.46      | 81.7         | 1.60                 | 3.06                   |
| A7    | 0.40      | 77.1         | 1.28                 | 2.49                   |
| AR1   | 0.16      | 90.0         | 0.59                 | 1.10                   |
| AR2   | 0.10      | 90.0         | 0.39                 | 0.72                   |
| AR3   | 0.12      | 90.0         | 0.44                 | 0.83                   |
| AR4   | 0.16      | 90.0         | 0.59                 | 1.10                   |
| AR5   | 0.17      | 90.0         | 0.65                 | 1.21                   |
| AR6   | 0.16      | 90.0         | 0.59                 | 1.10                   |
| B1.1  | 0.96      | 79.7         | 3.13                 | 6.03                   |
| B1.2  | 0.71      | 75.3         | 2.27                 | 4.45                   |
| B2.1  | 0.31      | 81.1         | 1.19                 | 2.29                   |
| B2.2  | 0.25      | 82.2         | 0.96                 | 1.83                   |
| B3.1  | 0.41      | 76.8         | 1.44                 | 2.81                   |
| B3.2  | 0.61      | 76.5         | 2.15                 | 4.20                   |
| B4    | 0.42      | 69.7         | 1.38                 | 2.78                   |
| B5    | 0.57      | 61.3         | 1.52                 | 3.22                   |
| B6    | 0.70      | 80.1         | 2.39                 | 4.60                   |
| B7    | 0.88      | 44.2         | 1.46                 | 3.56                   |
| BL1   | 0.36      | 21.6         | 0.36                 | 1.27                   |

DESIGN POINT SUMMARY TABLE

| DESIGN POINT | CONTRIBUTING BASINS | ΣQ <sub>5</sub> (cfs) | ΣQ <sub>100</sub> (cfs) |
|--------------|---------------------|-----------------------|-------------------------|
| 1            | A1.1                | 1.21                  | 2.20                    |
| 2            | A1.2                | 0.23                  | 0.45                    |
| 3            | A2, AR1             | 2.28                  | 4.34                    |
| 4            | A3                  | 1.01                  | 1.98                    |
| 5            | A4.1, A4.2          | 2.46                  | 4.74                    |
| 6            | A4.2                | 0.69                  | 1.30                    |
| 7            | A5.1                | 1.92                  | 3.73                    |
| 8            | A5.2                | 2.30                  | 4.51                    |
| 9            | A6.1                | 0.90                  | 1.93                    |
| 10           | A6.2                | 1.60                  | 3.06                    |
| 11           | A7                  | 1.28                  | 2.49                    |
| 12           | B1.1                | 3.13                  | 6.03                    |
| 13           | B1.2                | 2.27                  | 4.45                    |
| 14           | B2.1                | 1.19                  | 2.29                    |
| 15           | B2.2                | 0.96                  | 1.83                    |
| 16           | B3.1, BR5           | 2.09                  | 4.02                    |
| 17           | B3.2                | 2.15                  | 4.20                    |
| 18           | B4                  | 1.38                  | 2.78                    |
| 19           | B5, BR8             | 2.76                  | 5.54                    |
| 20           | B6, BR9             | 3.04                  | 5.81                    |
| 21           | B7, BR10            | 2.70                  | 5.88                    |

|      |      |      |      |      |
|------|------|------|------|------|
| BR1  | 0.10 | 90.0 | 0.38 | 0.72 |
| BR2  | 0.12 | 90.0 | 0.44 | 0.83 |
| BR3  | 0.16 | 90.0 | 0.59 | 1.10 |
| BR4  | 0.17 | 90.0 | 0.65 | 1.21 |
| BR5  | 0.17 | 90.0 | 0.65 | 1.21 |
| BR6  | 0.17 | 90.0 | 0.65 | 1.21 |
| BR7  | 0.16 | 90.0 | 0.59 | 1.10 |
| BR8  | 0.33 | 90.0 | 1.24 | 2.31 |
| BR9  | 0.17 | 90.0 | 0.65 | 1.21 |
| BR10 | 0.33 | 90.0 | 1.24 | 2.31 |
| O1   | 0.18 | 20.0 | 0.18 | 0.68 |
| O2   | 0.20 | 20.0 | 0.21 | 0.77 |
| O3   | 0.15 | 69.2 | 0.48 | 0.97 |
| O4   | 0.47 | 28.2 | 0.67 | 2.03 |
| O5   | 0.16 | 70.4 | 0.54 | 1.09 |
| O6   | 0.18 | 70.7 | 0.61 | 1.23 |
| P1   | 0.17 | 26.4 | 0.22 | 0.69 |

|                                                                                   |                               |                      |                        |                        |                      |                        |                       |                      |                        |              |                                                |                      |                        |
|-----------------------------------------------------------------------------------|-------------------------------|----------------------|------------------------|------------------------|----------------------|------------------------|-----------------------|----------------------|------------------------|--------------|------------------------------------------------|----------------------|------------------------|
|  | <b>HILLPOINTE AT PETERSON</b> |                      |                        |                        | <b>Calc'd by:</b>    |                        | <b>CMD</b>            |                      |                        |              |                                                |                      |                        |
|                                                                                   | <b>PROPOSED CONDITIONS</b>    |                      |                        |                        | <b>Checked by:</b>   |                        | <b>RDL</b>            |                      |                        |              |                                                |                      |                        |
|                                                                                   | <b>EL PASO COUNTY, CO</b>     |                      |                        |                        | <b>Date:</b>         |                        | <b>6/19/2026</b>      |                      |                        |              |                                                |                      |                        |
| <b>SOIL TYPE:    HSG A&amp;B</b>                                                  |                               |                      |                        |                        |                      |                        |                       |                      |                        |              |                                                |                      |                        |
| <b>COMPOSITE 'C' FACTORS</b>                                                      |                               |                      |                        |                        |                      |                        |                       |                      |                        |              |                                                |                      |                        |
| <b>BASIN</b>                                                                      | <b>LAND USE TYPE</b>          |                      |                        |                        |                      |                        |                       |                      |                        | <b>TOTAL</b> | <b>COMPOSITE IMPERVIOUSNESS &amp; C FACTOR</b> |                      |                        |
|                                                                                   | <b>Roofs</b>                  |                      |                        | <b>Drive and Walks</b> |                      |                        | <b>Landscape Area</b> |                      |                        |              |                                                |                      |                        |
|                                                                                   |                               |                      |                        |                        |                      |                        |                       |                      |                        |              |                                                |                      |                        |
|                                                                                   | <b>%I</b>                     | <b>C<sub>5</sub></b> | <b>C<sub>100</sub></b> | <b>%I</b>              | <b>C<sub>5</sub></b> | <b>C<sub>100</sub></b> | <b>%I</b>             | <b>C<sub>5</sub></b> | <b>C<sub>100</sub></b> |              |                                                |                      |                        |
|                                                                                   | <b>90</b>                     | <b>0.73</b>          | <b>0.81</b>            | <b>100</b>             | <b>0.90</b>          | <b>0.96</b>            | <b>20</b>             | <b>0.20</b>          | <b>0.44</b>            |              |                                                |                      |                        |
|                                                                                   | <b>ACRES</b>                  |                      |                        | <b>ACRES</b>           |                      |                        | <b>ACRES</b>          |                      |                        | <b>ACRES</b> | <b>%I</b>                                      | <b>C<sub>5</sub></b> | <b>C<sub>100</sub></b> |
| A1.1                                                                              | 0.00                          |                      |                        | 0.26                   |                      |                        | 0.01                  |                      |                        | 0.27         | 95.8                                           | 0.86                 | 0.93                   |
| A1.2                                                                              | 0.00                          |                      |                        | 0.05                   |                      |                        | 0.02                  |                      |                        | 0.07         | 78.1                                           | 0.71                 | 0.82                   |
| A2                                                                                | 0.00                          |                      |                        | 0.37                   |                      |                        | 0.12                  |                      |                        | 0.49         | 80.2                                           | 0.73                 | 0.83                   |
| A3                                                                                | 0.00                          |                      |                        | 0.20                   |                      |                        | 0.09                  |                      |                        | 0.28         | 75.8                                           | 0.69                 | 0.80                   |
| A4.1                                                                              | 0.00                          |                      |                        | 0.35                   |                      |                        | 0.14                  |                      |                        | 0.49         | 77.4                                           | 0.70                 | 0.81                   |
| A4.2                                                                              | 0.00                          |                      |                        | 0.14                   |                      |                        | 0.03                  |                      |                        | 0.17         | 85.5                                           | 0.77                 | 0.87                   |
| A5.1                                                                              | 0.04                          |                      |                        | 0.38                   |                      |                        | 0.15                  |                      |                        | 0.56         | 78.6                                           | 0.71                 | 0.82                   |
| A5.2                                                                              | 0.06                          |                      |                        | 0.41                   |                      |                        | 0.19                  |                      |                        | 0.66         | 76.0                                           | 0.68                 | 0.80                   |
| A6.1                                                                              | 0.07                          |                      |                        | 0.10                   |                      |                        | 0.15                  |                      |                        | 0.32         | 60.8                                           | 0.54                 | 0.69                   |
| A6.2                                                                              | 0.04                          |                      |                        | 0.32                   |                      |                        | 0.10                  |                      |                        | 0.46         | 81.7                                           | 0.73                 | 0.83                   |
| A7                                                                                | 0.00                          |                      |                        | 0.29                   |                      |                        | 0.12                  |                      |                        | 0.40         | 77.1                                           | 0.70                 | 0.81                   |
| AR1                                                                               | 0.16                          |                      |                        | 0.00                   |                      |                        | 0.00                  |                      |                        | 0.16         | 90.0                                           | 0.73                 | 0.81                   |
| AR2                                                                               | 0.10                          |                      |                        | 0.00                   |                      |                        | 0.00                  |                      |                        | 0.10         | 90.0                                           | 0.73                 | 0.81                   |
| AR3                                                                               | 0.12                          |                      |                        | 0.00                   |                      |                        | 0.00                  |                      |                        | 0.12         | 90.0                                           | 0.73                 | 0.81                   |
| AR4                                                                               | 0.16                          |                      |                        | 0.00                   |                      |                        | 0.00                  |                      |                        | 0.16         | 90.0                                           | 0.73                 | 0.81                   |
| AR5                                                                               | 0.17                          |                      |                        | 0.00                   |                      |                        | 0.00                  |                      |                        | 0.17         | 90.0                                           | 0.73                 | 0.81                   |
| AR6                                                                               | 0.16                          |                      |                        | 0.00                   |                      |                        | 0.00                  |                      |                        | 0.16         | 90.0                                           | 0.73                 | 0.81                   |
| B1.1                                                                              | 0.05                          |                      |                        | 0.68                   |                      |                        | 0.24                  |                      |                        | 0.96         | 79.7                                           | 0.72                 | 0.82                   |
| B1.2                                                                              | 0.04                          |                      |                        | 0.46                   |                      |                        | 0.22                  |                      |                        | 0.71         | 75.3                                           | 0.68                 | 0.80                   |
| B2.1                                                                              | 0.00                          |                      |                        | 0.24                   |                      |                        | 0.07                  |                      |                        | 0.31         | 81.1                                           | 0.73                 | 0.84                   |
| B2.2                                                                              | 0.00                          |                      |                        | 0.20                   |                      |                        | 0.06                  |                      |                        | 0.25         | 82.2                                           | 0.74                 | 0.84                   |
| B3.1                                                                              | 0.00                          |                      |                        | 0.29                   |                      |                        | 0.12                  |                      |                        | 0.41         | 76.8                                           | 0.70                 | 0.81                   |
| B3.2                                                                              | 0.00                          |                      |                        | 0.43                   |                      |                        | 0.18                  |                      |                        | 0.61         | 76.5                                           | 0.69                 | 0.81                   |
| B4                                                                                | 0.00                          |                      |                        | 0.26                   |                      |                        | 0.16                  |                      |                        | 0.42         | 69.7                                           | 0.63                 | 0.76                   |
| B5                                                                                | 0.00                          |                      |                        | 0.30                   |                      |                        | 0.28                  |                      |                        | 0.57         | 61.3                                           | 0.56                 | 0.71                   |

| COMPOSITE 'C' FACTORS |               |                |                  |                 |                |                  |                |                |                  |       |                                     |      |                |
|-----------------------|---------------|----------------|------------------|-----------------|----------------|------------------|----------------|----------------|------------------|-------|-------------------------------------|------|----------------|
| BASIN                 | LAND USE TYPE |                |                  |                 |                |                  |                |                |                  | TOTAL | COMPOSITE IMPERVIOUSNESS & C FACTOR |      |                |
|                       | Roofs         |                |                  | Drive and Walks |                |                  | Landscape Area |                |                  |       |                                     |      |                |
|                       | %I            | C <sub>5</sub> | C <sub>100</sub> | %I              | C <sub>5</sub> | C <sub>100</sub> | %I             | C <sub>5</sub> | C <sub>100</sub> |       |                                     |      |                |
|                       | 90            | 0.73           | 0.81             | 100             | 0.90           | 0.96             | 20             | 0.20           | 0.44             |       |                                     |      |                |
|                       | ACRES         |                |                  | ACRES           |                |                  | ACRES          |                |                  |       | ACRES                               | %I   | C <sub>5</sub> |
| B6                    | 0.04          |                |                  | 0.49            |                |                  | 0.17           |                |                  | 0.70  | 80.1                                | 0.72 | 0.83           |
| B7                    | 0.00          |                |                  | 0.26            |                |                  | 0.61           |                |                  | 0.88  | 44.2                                | 0.41 | 0.60           |
| BL1                   | 0.00          |                |                  | 0.01            |                |                  | 0.36           |                |                  | 0.36  | 21.6                                | 0.21 | 0.45           |
| BR1                   | 0.10          |                |                  | 0.00            |                |                  | 0.00           |                |                  | 0.10  | 90.0                                | 0.73 | 0.81           |
| BR2                   | 0.12          |                |                  | 0.00            |                |                  | 0.00           |                |                  | 0.12  | 90.0                                | 0.73 | 0.81           |
| BR3                   | 0.16          |                |                  | 0.00            |                |                  | 0.00           |                |                  | 0.16  | 90.0                                | 0.73 | 0.81           |
| BR4                   | 0.17          |                |                  | 0.00            |                |                  | 0.00           |                |                  | 0.17  | 90.0                                | 0.73 | 0.81           |
| BR5                   | 0.17          |                |                  | 0.00            |                |                  | 0.00           |                |                  | 0.17  | 90.0                                | 0.73 | 0.81           |
| BR6                   | 0.17          |                |                  | 0.00            |                |                  | 0.00           |                |                  | 0.17  | 90.0                                | 0.73 | 0.81           |
| BR7                   | 0.16          |                |                  | 0.00            |                |                  | 0.00           |                |                  | 0.16  | 90.0                                | 0.73 | 0.81           |
| BR8                   | 0.33          |                |                  | 0.00            |                |                  | 0.00           |                |                  | 0.33  | 90.0                                | 0.73 | 0.81           |
| BR9                   | 0.17          |                |                  | 0.00            |                |                  | 0.00           |                |                  | 0.17  | 90.0                                | 0.73 | 0.81           |
| BR10                  | 0.33          |                |                  | 0.00            |                |                  | 0.00           |                |                  | 0.33  | 90.0                                | 0.73 | 0.81           |
| O1                    | 0.00          |                |                  | 0.00            |                |                  | 0.18           |                |                  | 0.18  | 20.0                                | 0.20 | 0.44           |
| O2                    | 0.00          |                |                  | 0.00            |                |                  | 0.20           |                |                  | 0.20  | 20.0                                | 0.20 | 0.44           |
| O3                    | 0.00          |                |                  | 0.09            |                |                  | 0.06           |                |                  | 0.15  | 69.2                                | 0.63 | 0.76           |
| O4                    | 0.00          |                |                  | 0.05            |                |                  | 0.43           |                |                  | 0.47  | 28.2                                | 0.27 | 0.49           |
| O5                    | 0.00          |                |                  | 0.10            |                |                  | 0.06           |                |                  | 0.16  | 70.4                                | 0.64 | 0.77           |
| O6                    | 0.00          |                |                  | 0.12            |                |                  | 0.07           |                |                  | 0.18  | 70.7                                | 0.64 | 0.77           |
| P1                    | 0.00          |                |                  | 0.01            |                |                  | 0.15           |                |                  | 0.17  | 26.4                                | 0.26 | 0.48           |
| ON-SITE               | 3.07          |                |                  | 6.63            |                |                  | 4.40           |                |                  | 14.10 | 72.9                                | 0.64 | 0.77           |
| OFF-SITE              | 0.00          |                |                  | 0.15            |                |                  | 0.66           |                |                  | 0.82  | 34.9                                | 0.33 | 0.54           |
| TOTAL                 | 3.07          |                |                  | 6.85            |                |                  | 4.71           |                |                  | 14.63 | 72.2                                | 0.64 | 0.76           |

|                                                                                  |                        |           |                                 |         |                      |                               |             |             |          |                      |                      |               |                 |
|----------------------------------------------------------------------------------|------------------------|-----------|---------------------------------|---------|----------------------|-------------------------------|-------------|-------------|----------|----------------------|----------------------|---------------|-----------------|
|  | HILLPOINTE AT PETERSON |           |                                 |         |                      |                               |             | Calc'd by:  |          | CMD                  |                      |               |                 |
|                                                                                  | PROPOSED CONDITIONS    |           |                                 |         |                      |                               |             | Checked by: |          | RDL                  |                      |               |                 |
|                                                                                  | EL PASO COUNTY, CO     |           |                                 |         |                      |                               |             | Date:       |          | 6/19/2026            |                      |               |                 |
| TIME OF CONCENTRATION                                                            |                        |           |                                 |         |                      |                               |             |             |          |                      |                      |               |                 |
| BASIN DATA                                                                       |                        |           | OVERLAND TIME (T <sub>f</sub> ) |         |                      | TRAVEL TIME (T <sub>t</sub> ) |             |             |          |                      | TOTAL                | tc=(L/180)+10 | Design tc       |
| DESIGNATION                                                                      | C <sub>s</sub>         | AREA (ac) | LENGTH (ft)                     | SLOPE % | t <sub>f</sub> (min) | C <sub>v</sub>                | LENGTH (ft) | SLOPE %     | V (ft/s) | t <sub>t</sub> (min) | t <sub>c</sub> (min) | tc max        | tc design (min) |
| A1.1                                                                             | 0.86                   | 0.27      | 15                              | 2.0     | 1.3                  | 20                            | 365         | 1.3         | 2.3      | 2.7                  | 5.0                  | 12.1          | 5.0             |
| A1.2                                                                             | 0.71                   | 0.07      | 28                              | 2.0     | 3.0                  | 20                            | 304         | 1.0         | 2.0      | 2.6                  | 5.6                  | 11.8          | 5.6             |
| A2                                                                               | 0.73                   | 0.49      | 28                              | 2.0     | 2.9                  | 20                            | 417         | 0.9         | 1.9      | 3.7                  | 6.6                  | 12.5          | 6.6             |
| A3                                                                               | 0.69                   | 0.28      | 20                              | 5.0     | 2.0                  | 20                            | 285         | 1.3         | 2.3      | 2.1                  | 5.0                  | 11.7          | 5.0             |
| A4.1                                                                             | 0.70                   | 0.49      | 18                              | 2.0     | 2.5                  | 20                            | 179         | 1.3         | 2.2      | 1.3                  | 5.0                  | 11.1          | 5.0             |
| A4.2                                                                             | 0.77                   | 0.17      | 54                              | 2.0     | 3.5                  | 20                            | 179         | 1.1         | 2.1      | 1.4                  | 5.0                  | 11.3          | 5.0             |
| A5.1                                                                             | 0.71                   | 0.56      | 50                              | 2.0     | 4.0                  | 20                            | 327         | 1.6         | 2.5      | 2.2                  | 6.2                  | 12.1          | 6.2             |
| A5.2                                                                             | 0.68                   | 0.66      | 42                              | 2.0     | 3.9                  | 20                            | 167         | 1.3         | 2.3      | 1.2                  | 5.1                  | 11.2          | 5.1             |
| A6.1                                                                             | 0.54                   | 0.32      | 24                              | 5.0     | 3.0                  | 20                            | 148         | 2.3         | 3.0      | 0.8                  | 5.0                  | 11.0          | 5.0             |
| A6.2                                                                             | 0.73                   | 0.46      | 42                              | 2.0     | 3.5                  | 20                            | 447         | 1.5         | 2.4      | 3.1                  | 6.5                  | 12.7          | 6.5             |
| A7                                                                               | 0.70                   | 0.40      | 72                              | 2.0     | 4.9                  | 20                            | 475         | 2.1         | 2.9      | 2.8                  | 7.7                  | 13.0          | 7.7             |
| AR1                                                                              | 0.73                   | 0.16      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8        | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| AR2                                                                              | 0.73                   | 0.10      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8        | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| AR3                                                                              | 0.73                   | 0.12      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8        | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| AR4                                                                              | 0.73                   | 0.16      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8        | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| AR5                                                                              | 0.73                   | 0.17      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8        | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| AR6                                                                              | 0.73                   | 0.16      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8        | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| B1.1                                                                             | 0.72                   | 0.96      | 44                              | 12.0    | 2.0                  | 20                            | 824         | 1.5         | 2.4      | 5.6                  | 7.6                  | 14.8          | 7.6             |
| B1.2                                                                             | 0.68                   | 0.71      | 30                              | 2.0     | 3.3                  | 20                            | 451         | 1.1         | 2.1      | 3.6                  | 7.0                  | 12.7          | 7.0             |
| B2.1                                                                             | 0.73                   | 0.31      | 30                              | 2.0     | 2.9                  | 20                            | 301         | 1.8         | 2.6      | 1.9                  | 5.0                  | 11.8          | 5.0             |
| B2.2                                                                             | 0.74                   | 0.25      | 44                              | 2.0     | 3.4                  | 20                            | 248         | 1.3         | 2.3      | 1.8                  | 5.3                  | 11.6          | 5.3             |
| B3.1                                                                             | 0.70                   | 0.41      | 32                              | 2.0     | 3.3                  | 20                            | 281         | 1.3         | 2.2      | 2.1                  | 5.4                  | 11.7          | 5.4             |
| B3.2                                                                             | 0.69                   | 0.61      | 32                              | 2.0     | 3.3                  | 20                            | 269         | 1.2         | 2.2      | 2.1                  | 5.4                  | 11.7          | 5.4             |
| B4                                                                               | 0.63                   | 0.42      | 14                              | 2.0     | 2.5                  | 20                            | 300         | 1.4         | 2.3      | 2.1                  | 5.0                  | 11.7          | 5.0             |
| B5                                                                               | 0.56                   | 0.57      | 37                              | 2.0     | 4.8                  | 20                            | 224         | 1.0         | 2.0      | 1.9                  | 6.7                  | 11.5          | 6.7             |
| B6                                                                               | 0.72                   | 0.70      | 44                              | 2.0     | 3.7                  | 20                            | 375         | 1.2         | 2.2      | 2.9                  | 6.5                  | 12.3          | 6.5             |
| B7                                                                               | 0.41                   | 0.88      | 95                              | 3.0     | 8.5                  | 20                            | 403         | 3.1         | 3.5      | 1.9                  | 10.4                 | 12.8          | 10.4            |
| BL1                                                                              | 0.21                   | 0.36      | 48                              | 10.0    | 5.2                  | 20                            | 280         | 1.5         | 2.4      | 1.9                  | 7.2                  | 11.8          | 7.2             |
| BR1                                                                              | 0.73                   | 0.10      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8        | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| BR2                                                                              | 0.73                   | 0.12      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8        | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| BR3                                                                              | 0.73                   | 0.16      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8        | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| BR4                                                                              | 0.73                   | 0.17      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8        | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| BR5                                                                              | 0.73                   | 0.17      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8        | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| BR6                                                                              | 0.73                   | 0.17      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8        | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |



|                                                                                  |                               |                    |                  |
|----------------------------------------------------------------------------------|-------------------------------|--------------------|------------------|
|  | <b>HILLPOINTE AT PETERSON</b> | <b>Calc'd by:</b>  | <b>CMD</b>       |
|                                                                                  | <b>PROPOSED CONDITIONS</b>    | <b>Checked by:</b> | <b>RDL</b>       |
|                                                                                  | <b>EL PASO COUNTY, CO</b>     | <b>Date:</b>       | <b>6/19/2026</b> |

| TIME OF CONCENTRATION |                |           |                                 |         |                      |                               |             |         |          |                      |                      |               |                 |
|-----------------------|----------------|-----------|---------------------------------|---------|----------------------|-------------------------------|-------------|---------|----------|----------------------|----------------------|---------------|-----------------|
| BASIN DATA            |                |           | OVERLAND TIME (T <sub>i</sub> ) |         |                      | TRAVEL TIME (T <sub>t</sub> ) |             |         |          |                      | TOTAL                | tc=(L/180)+10 | Design tc       |
| DESIGNATION           | C <sub>s</sub> | AREA (ac) | LENGTH (ft)                     | SLOPE % | t <sub>i</sub> (min) | C <sub>v</sub>                | LENGTH (ft) | SLOPE % | V (ft/s) | t <sub>t</sub> (min) | t <sub>c</sub> (min) | tc max        | tc design (min) |
| BR7                   | 0.73           | 0.16      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8    | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| BR8                   | 0.73           | 0.33      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8    | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| BR9                   | 0.73           | 0.17      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8    | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| BR10                  | 0.73           | 0.33      | 28                              | 45.8    | 1.0                  | 20                            | 50          | 45.8    | 13.5     | 0.1                  | 5.0                  | 10.4          | 5.0             |
| O1                    | 0.20           | 0.18      | 27                              | 10.0    | 4.0                  | 7                             | 0           | 10.0    | 2.2      | 0.0                  | 5.0                  | 10.2          | 5.0             |
| O2                    | 0.20           | 0.20      | 26                              | 33.3    | 2.6                  | 7                             | 0           | 33.3    | 4.0      | 0.0                  | 5.0                  | 10.1          | 5.0             |
| O3                    | 0.63           | 0.15      | 46                              | 15.0    | 2.4                  | 7                             | 0           | 15.0    | 2.7      | 0.0                  | 5.0                  | 10.3          | 5.0             |
| O4                    | 0.27           | 0.47      | 37                              | 7.0     | 4.8                  | 7                             | 0           | 7.0     | 1.9      | 0.0                  | 5.0                  | 10.2          | 5.0             |
| O5                    | 0.64           | 0.16      | 14                              | 20.0    | 1.2                  | 7                             | 0           | 20.0    | 3.1      | 0.0                  | 5.0                  | 10.1          | 5.0             |
| O6                    | 0.64           | 0.18      | 25                              | 9.0     | 2.0                  | 7                             | 0           | 9.0     | 2.1      | 0.0                  | 5.0                  | 10.1          | 5.0             |
| P1                    | 0.26           | 0.17      | 32                              | 5.0     | 5.1                  | 15                            | 32          | 5.0     | 3.4      | 0.2                  | 5.3                  | 10.4          | 5.3             |

Table 6-7. Conveyance Coefficient, C<sub>v</sub>

| Type of Land Surface                 | C <sub>v</sub> |
|--------------------------------------|----------------|
| Heavy meadow                         | 2.5            |
| Tillage/field                        | 5              |
| Riprap (not buried)*                 | 6.5            |
| Short pasture and lawns              | 7              |
| Nearly bare ground                   | 10             |
| Grassed waterway                     | 15             |
| Paved areas and shallow paved swales | 20             |

\*For buried riprap, select C<sub>v</sub> value based on type of vegetative cover.

$$t_i = \frac{0.395(1.1 - C_s)\sqrt{L}}{S^{0.33}}$$

$$V = C_v S_w^{0.5}$$



**HILLPOINTE AT PETERSON**  
**PROPOSED CONDITIONS**  
**DESIGN STORM: 5-YEAR**

Calc'd by:

CMD

Checked by:

RDL

Date:

6/19/2026

|           |              |          | DIRECT RUNOFF |                |                      |                        |              |         | TOTAL RUNOFF         |                        |              |         | STREET                    |                        |         | PIPE                    |                        |         |                | TRAVEL TIME |             |                   | REMARKS                                         |
|-----------|--------------|----------|---------------|----------------|----------------------|------------------------|--------------|---------|----------------------|------------------------|--------------|---------|---------------------------|------------------------|---------|-------------------------|------------------------|---------|----------------|-------------|-------------|-------------------|-------------------------------------------------|
| STRUCTURE | DESIGN POINT | BASIN ID | AREA (ac)     | C <sub>s</sub> | t <sub>c</sub> (min) | C <sub>s</sub> *A (ac) | f (in./ hr.) | Q (cfs) | t <sub>c</sub> (min) | C <sub>s</sub> *A (ac) | f (in./ hr.) | Q (cfs) | Q <sub>street</sub> (cfs) | C <sub>s</sub> *A (ac) | SLOPE % | Q <sub>PIPE</sub> (cfs) | C <sub>s</sub> *A (ac) | SLOPE % | PIPE SIZE (ft) | LENGTH (ft) | VEL. (ft/s) | TRAVEL TIME (min) |                                                 |
|           | 1            | A1.1     | 0.27          | 0.86           | 5.0                  | 0.23                   | 5.17         | 1.21    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 2            | A1.2     | 0.07          | 0.71           | 5.6                  | 0.05                   | 5.00         | 0.23    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           |              | A2       | 0.49          | 0.73           | 6.6                  | 0.35                   | 4.75         | 1.69    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 3            | A3       | 0.28          | 0.69           | 5.0                  | 0.20                   | 5.17         | 1.01    |                      |                        |              | 2.28    |                           |                        |         |                         |                        |         |                |             |             |                   | COMBINED FLOW TO INLET AT DESIGN POINT LOCATION |
|           |              | A4.1     | 0.49          | 0.70           | 5.0                  | 0.34                   | 5.17         | 1.77    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 6            | A4.2     | 0.17          | 0.77           | 5.0                  | 0.13                   | 5.17         | 0.69    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 5            | A5.1     | 0.56          | 0.71           | 6.2                  | 0.40                   | 4.84         | 1.92    |                      |                        |              | 3.05    |                           |                        |         |                         |                        |         |                |             |             |                   | COMBINED FLOW TO INLET AT DESIGN POINT LOCATION |
|           | 7            | A5.2     | 0.66          | 0.68           | 5.1                  | 0.45                   | 5.13         | 2.30    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 8            | A5.2     | 0.66          | 0.68           | 5.1                  | 0.45                   | 5.13         | 2.30    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 9            | A6.1     | 0.32          | 0.54           | 5.0                  | 0.17                   | 5.17         | 0.90    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 10           | A6.2     | 0.46          | 0.73           | 6.5                  | 0.34                   | 4.76         | 1.60    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 11           | A7       | 0.40          | 0.70           | 7.7                  | 0.28                   | 4.52         | 1.28    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           |              | AR1      | 0.16          | 0.73           | 5.0                  | 0.11                   | 5.17         | 0.59    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           |              | AR2      | 0.10          | 0.73           | 5.0                  | 0.08                   | 5.17         | 0.39    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           |              | AR3      | 0.12          | 0.73           | 5.0                  | 0.09                   | 5.17         | 0.44    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           |              | AR4      | 0.16          | 0.73           | 5.0                  | 0.11                   | 5.17         | 0.59    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           |              | AR5      | 0.17          | 0.73           | 5.0                  | 0.13                   | 5.17         | 0.65    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           |              | AR6      | 0.16          | 0.73           | 5.0                  | 0.11                   | 5.17         | 0.59    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 12           | B1.1     | 0.96          | 0.72           | 7.6                  | 0.69                   | 4.53         | 3.13    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 13           | B1.2     | 0.71          | 0.68           | 7.0                  | 0.49                   | 4.67         | 2.27    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 14           | B2.1     | 0.31          | 0.73           | 5.0                  | 0.23                   | 5.17         | 1.19    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 15           | B2.2     | 0.25          | 0.74           | 5.3                  | 0.19                   | 5.10         | 0.96    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           |              | B3.1     | 0.41          | 0.70           | 5.4                  | 0.29                   | 5.05         | 1.44    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 16           | B3.2     | 0.61          | 0.69           | 5.4                  | 0.43                   | 5.05         | 2.15    |                      |                        |              | 2.09    |                           |                        |         |                         |                        |         |                |             |             |                   | COMBINED FLOW TO INLET AT DESIGN POINT LOCATION |
|           | 17           | B3.2     | 0.61          | 0.69           | 5.4                  | 0.43                   | 5.05         | 2.15    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 18           | B4       | 0.42          | 0.63           | 5.0                  | 0.27                   | 5.17         | 1.38    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           |              | B5       | 0.57          | 0.56           | 6.7                  | 0.32                   | 4.74         | 1.52    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |                                                 |
|           | 19           | B6       | 0.70          | 0.72           | 6.5                  | 0.50                   | 4.77         | 2.39    |                      |                        |              | 2.76    |                           |                        |         |                         |                        |         |                |             |             |                   | COMBINED FLOW TO INLET AT DESIGN POINT LOCATION |
|           | 20           | B7       | 0.88          | 0.41           | 10.4                 | 0.36                   | 4.06         | 1.46    |                      |                        |              | 3.04    |                           |                        |         |                         |                        |         |                |             |             |                   | COMBINED FLOW TO INLET AT DESIGN POINT LOCATION |
|           | 21           |          |               |                |                      |                        |              |         |                      |                        |              | 2.70    |                           |                        |         |                         |                        |         |                |             |             |                   | COMBINED FLOW TO INLET AT DESIGN POINT LOCATION |



**HILLPOINTE AT PETERSON**  
**PROPOSED CONDITIONS**  
**DESIGN STORM: 5-YEAR**

Calc'd by:

CMD

Checked by:

RDL

Date:

6/19/2026

|           |              |          | DIRECT RUNOFF |                |                      |                        |              |         | TOTAL RUNOFF         |                        |              |         | STREET                    |                        |         | PIPE                    |                        |         |                | TRAVEL TIME |             |                   | REMARKS |  |
|-----------|--------------|----------|---------------|----------------|----------------------|------------------------|--------------|---------|----------------------|------------------------|--------------|---------|---------------------------|------------------------|---------|-------------------------|------------------------|---------|----------------|-------------|-------------|-------------------|---------|--|
| STRUCTURE | DESIGN POINT | BASIN ID | AREA (ac)     | C <sub>s</sub> | t <sub>c</sub> (min) | C <sub>s</sub> *A (ac) | f (in./ hr.) | Q (cfs) | t <sub>c</sub> (min) | C <sub>s</sub> *A (ac) | f (in./ hr.) | Q (cfs) | Q <sub>street</sub> (cfs) | C <sub>s</sub> *A (ac) | SLOPE % | Q <sub>PIPE</sub> (cfs) | C <sub>s</sub> *A (ac) | SLOPE % | PIPE SIZE (ft) | LENGTH (ft) | VEL. (ft/s) | TRAVEL TIME (min) |         |  |
|           |              | BL1      | 0.36          | 0.21           | 7.2                  | 0.08                   | 4.63         | 0.36    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | BR1      | 0.10          | 0.73           | 5.0                  | 0.07                   | 5.17         | 0.38    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | BR2      | 0.12          | 0.73           | 5.0                  | 0.09                   | 5.17         | 0.44    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | BR3      | 0.16          | 0.73           | 5.0                  | 0.11                   | 5.17         | 0.59    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | BR4      | 0.17          | 0.73           | 5.0                  | 0.13                   | 5.17         | 0.65    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | BR5      | 0.17          | 0.73           | 5.0                  | 0.13                   | 5.17         | 0.65    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | BR6      | 0.17          | 0.73           | 5.0                  | 0.13                   | 5.17         | 0.65    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | BR7      | 0.16          | 0.73           | 5.0                  | 0.11                   | 5.17         | 0.59    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | BR8      | 0.33          | 0.73           | 5.0                  | 0.24                   | 5.17         | 1.24    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | BR9      | 0.17          | 0.73           | 5.0                  | 0.13                   | 5.17         | 0.65    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | BR10     | 0.33          | 0.73           | 5.0                  | 0.24                   | 5.17         | 1.24    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | O1       | 0.18          | 0.20           | 5.0                  | 0.04                   | 5.17         | 0.18    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | O2       | 0.20          | 0.20           | 5.0                  | 0.04                   | 5.17         | 0.21    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | O3       | 0.15          | 0.63           | 5.0                  | 0.09                   | 5.17         | 0.48    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | O4       | 0.47          | 0.27           | 5.0                  | 0.13                   | 5.17         | 0.67    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | O5       | 0.16          | 0.64           | 5.0                  | 0.11                   | 5.17         | 0.54    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | O6       | 0.18          | 0.64           | 5.0                  | 0.12                   | 5.17         | 0.61    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |
|           |              | P1       | 0.17          | 0.26           | 5.3                  | 0.04                   | 5.09         | 0.22    |                      |                        |              |         |                           |                        |         |                         |                        |         |                |             |             |                   |         |  |



**HILLPOINTE AT PETERSON**  
**PROPOSED CONDITIONS**  
**DESIGN STORM: 100-YEAR**

Calc'd by:

CMD

Checked by:

RDL

Date:

6/19/2026

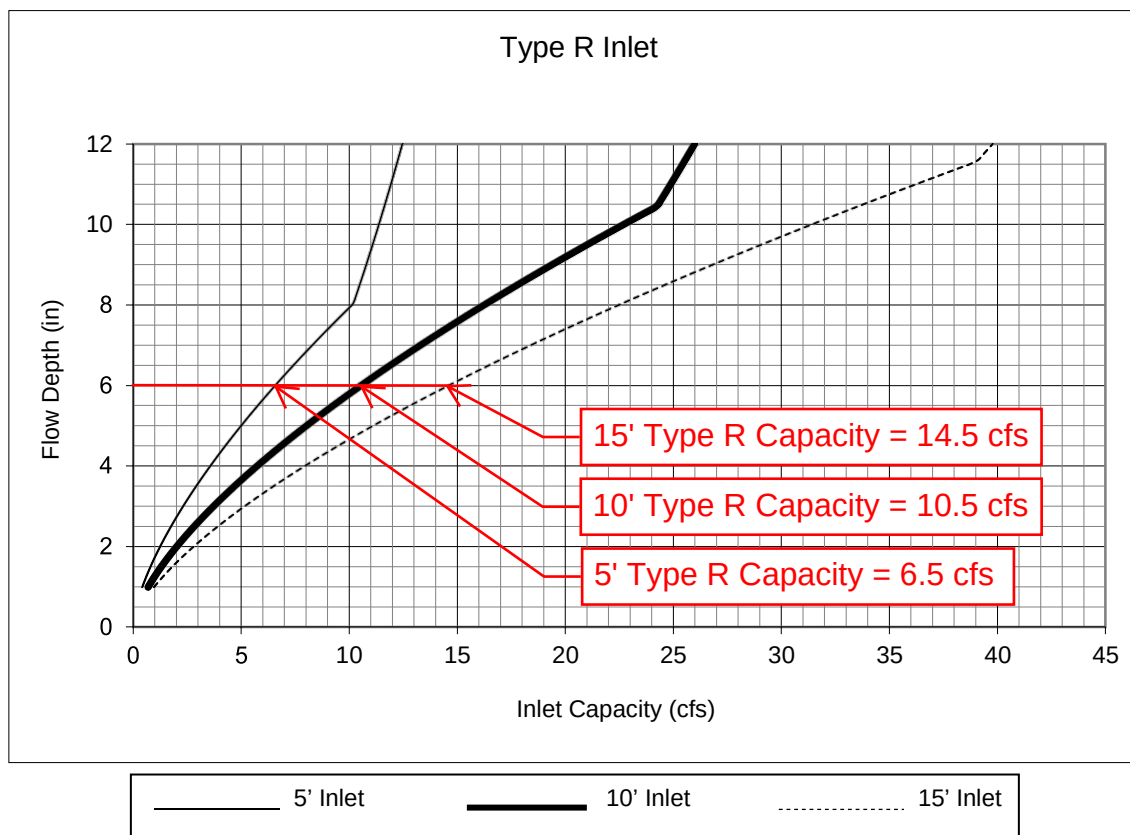
| STRUCTURE | DESIGN POINT | BASIN ID | DIRECT RUNOFF |                  |                      |                          |             |         | TOTAL RUNOFF         |                          |             |         | STREET                    |                          |         | PIPE                    |                          |         |                | TRAVEL TIME |             |                   | REMARKS                                         |
|-----------|--------------|----------|---------------|------------------|----------------------|--------------------------|-------------|---------|----------------------|--------------------------|-------------|---------|---------------------------|--------------------------|---------|-------------------------|--------------------------|---------|----------------|-------------|-------------|-------------------|-------------------------------------------------|
|           |              |          | AREA (ac)     | C <sub>100</sub> | t <sub>c</sub> (min) | C <sub>100</sub> *A (ac) | I (in./hr.) | Q (cfs) | t <sub>c</sub> (min) | C <sub>100</sub> *A (ac) | I (in./hr.) | Q (cfs) | Q <sub>street</sub> (cfs) | C <sub>100</sub> *A (ac) | SLOPE % | Q <sub>pipe</sub> (cfs) | C <sub>100</sub> *A (ac) | SLOPE % | PIPE SIZE (ft) | LENGTH (ft) | VEL. (ft/s) | TRAVEL TIME (min) |                                                 |
|           | 1            | A1.1     | 0.27          | 0.93             | 5.0                  | 0.25                     | 8.68        | 2.20    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 2            | A1.2     | 0.07          | 0.82             | 5.6                  | 0.05                     | 8.40        | 0.45    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           |              | A2       | 0.49          | 0.83             | 6.6                  | 0.41                     | 7.97        | 3.24    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 3            | A3       | 0.28          | 0.80             | 5.0                  | 0.23                     | 8.68        | 1.98    |                      |                          |             | 4.34    |                           |                          |         |                         |                          |         |                |             |             |                   | COMBINED FLOW TO INLET AT DESIGN POINT LOCATION |
|           | 4            | A4.1     | 0.49          | 0.81             | 5.0                  | 0.40                     | 8.68        | 3.44    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 6            | A4.2     | 0.17          | 0.87             | 5.0                  | 0.15                     | 8.68        | 1.30    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 5            | A5.1     | 0.56          | 0.82             | 6.2                  | 0.46                     | 8.13        | 3.73    |                      |                          |             | 5.84    |                           |                          |         |                         |                          |         |                |             |             |                   | COMBINED FLOW TO INLET AT DESIGN POINT LOCATION |
|           | 7            | A5.2     | 0.66          | 0.80             | 5.1                  | 0.52                     | 8.61        | 4.51    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 8            | A6.1     | 0.32          | 0.69             | 5.0                  | 0.22                     | 8.68        | 1.93    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 9            | A6.2     | 0.46          | 0.83             | 6.5                  | 0.38                     | 8.00        | 3.06    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 10           | A7       | 0.40          | 0.81             | 7.7                  | 0.33                     | 7.59        | 2.49    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           |              | AR1      | 0.16          | 0.81             | 5.0                  | 0.13                     | 8.68        | 1.10    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           |              | AR2      | 0.10          | 0.81             | 5.0                  | 0.08                     | 8.68        | 0.72    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           |              | AR3      | 0.12          | 0.81             | 5.0                  | 0.10                     | 8.68        | 0.83    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           |              | AR4      | 0.16          | 0.81             | 5.0                  | 0.13                     | 8.68        | 1.10    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           |              | AR5      | 0.17          | 0.81             | 5.0                  | 0.14                     | 8.68        | 1.21    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           |              | AR6      | 0.16          | 0.81             | 5.0                  | 0.13                     | 8.68        | 1.10    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 12           | B1.1     | 0.96          | 0.82             | 7.6                  | 0.79                     | 7.61        | 6.03    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 13           | B1.2     | 0.71          | 0.80             | 7.0                  | 0.57                     | 7.85        | 4.45    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 14           | B2.1     | 0.31          | 0.84             | 5.0                  | 0.26                     | 8.68        | 2.29    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 15           | B2.2     | 0.25          | 0.84             | 5.3                  | 0.21                     | 8.56        | 1.83    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           |              | B3.1     | 0.41          | 0.81             | 5.4                  | 0.33                     | 8.48        | 2.81    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 16           | B3.2     | 0.61          | 0.81             | 5.4                  | 0.50                     | 8.48        | 4.20    |                      |                          |             | 4.02    |                           |                          |         |                         |                          |         |                |             |             |                   | COMBINED FLOW TO INLET AT DESIGN POINT LOCATION |
|           | 17           | B4       | 0.42          | 0.76             | 5.0                  | 0.32                     | 8.68        | 2.78    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 18           | B5       | 0.57          | 0.71             | 6.7                  | 0.41                     | 7.96        | 3.22    |                      |                          |             |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |
|           | 19           | B6       | 0.70          | 0.83             | 6.5                  | 0.57                     | 8.00        | 4.60    |                      |                          |             | 5.54    |                           |                          |         |                         |                          |         |                |             |             |                   | COMBINED FLOW TO INLET AT DESIGN POINT LOCATION |
|           | 20           | B7       | 0.88          | 0.60             | 10.4                 | 0.52                     | 6.82        | 3.56    |                      |                          |             | 5.81    |                           |                          |         |                         |                          |         |                |             |             |                   | COMBINED FLOW TO INLET AT DESIGN POINT LOCATION |

**HILLPOINTE AT PETERSON****Calc'd by:****CMD****PROPOSED CONDITIONS****Checked by:****RDL****DESIGN STORM: 100-YEAR****Date:****6/19/2026**

|           |              |          | DIRECT RUNOFF |                  |                      |                          |              |         | TOTAL RUNOFF         |                          |              |         | STREET                    |                          |         | PIPE                    |                          |         |                | TRAVEL TIME |             |                   | REMARKS                                         |  |
|-----------|--------------|----------|---------------|------------------|----------------------|--------------------------|--------------|---------|----------------------|--------------------------|--------------|---------|---------------------------|--------------------------|---------|-------------------------|--------------------------|---------|----------------|-------------|-------------|-------------------|-------------------------------------------------|--|
| STRUCTURE | DESIGN POINT | BASIN ID | AREA (ac)     | C <sub>100</sub> | t <sub>c</sub> (min) | C <sub>100</sub> *A (ac) | I (in./ hr.) | Q (cfs) | t <sub>c</sub> (min) | C <sub>100</sub> *A (ac) | I (in./ hr.) | Q (cfs) | Q <sub>street</sub> (cfs) | C <sub>100</sub> *A (ac) | SLOPE % | Q <sub>PIPE</sub> (cfs) | C <sub>100</sub> *A (ac) | SLOPE % | PIPE SIZE (ft) | LENGTH (ft) | VEL. (ft/s) | TRAVEL TIME (min) |                                                 |  |
|           | 21           | BL1      | 0.36          | 0.45             | 7.2                  | 0.16                     | 7.77         | 1.27    |                      |                          |              | 5.88    |                           |                          |         |                         |                          |         |                |             |             |                   | COMBINED FLOW TO INLET AT DESIGN POINT LOCATION |  |
|           |              | BR1      | 0.10          | 0.81             | 5.0                  | 0.08                     | 8.68         | 0.72    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | BR2      | 0.12          | 0.81             | 5.0                  | 0.10                     | 8.68         | 0.83    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | BR3      | 0.16          | 0.81             | 5.0                  | 0.13                     | 8.68         | 1.10    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | BR4      | 0.17          | 0.81             | 5.0                  | 0.14                     | 8.68         | 1.21    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | BR5      | 0.17          | 0.81             | 5.0                  | 0.14                     | 8.68         | 1.21    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | BR6      | 0.17          | 0.81             | 5.0                  | 0.14                     | 8.68         | 1.21    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | BR7      | 0.16          | 0.81             | 5.0                  | 0.13                     | 8.68         | 1.10    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | BR8      | 0.33          | 0.81             | 5.0                  | 0.27                     | 8.68         | 2.31    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | BR9      | 0.17          | 0.81             | 5.0                  | 0.14                     | 8.68         | 1.21    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | BR10     | 0.33          | 0.81             | 5.0                  | 0.27                     | 8.68         | 2.31    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | O1       | 0.18          | 0.44             | 5.0                  | 0.08                     | 8.68         | 0.68    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | O2       | 0.20          | 0.44             | 5.0                  | 0.09                     | 8.68         | 0.77    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | O3       | 0.15          | 0.76             | 5.0                  | 0.11                     | 8.68         | 0.97    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | O4       | 0.47          | 0.49             | 5.0                  | 0.23                     | 8.68         | 2.03    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | O5       | 0.16          | 0.77             | 5.0                  | 0.13                     | 8.68         | 1.09    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | O6       | 0.18          | 0.77             | 5.0                  | 0.14                     | 8.68         | 1.23    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |
|           |              | P1       | 0.17          | 0.48             | 5.3                  | 0.08                     | 8.54         | 0.69    |                      |                          |              |         |                           |                          |         |                         |                          |         |                |             |             |                   |                                                 |  |



## **APPENDIX C – HYDRAULIC CALCULATIONS**

**Figure 8-11. Inlet Capacity Chart Sump Conditions , Curb Opening (Type R) Inlet**

Note: All proposed inlets are sump inlets

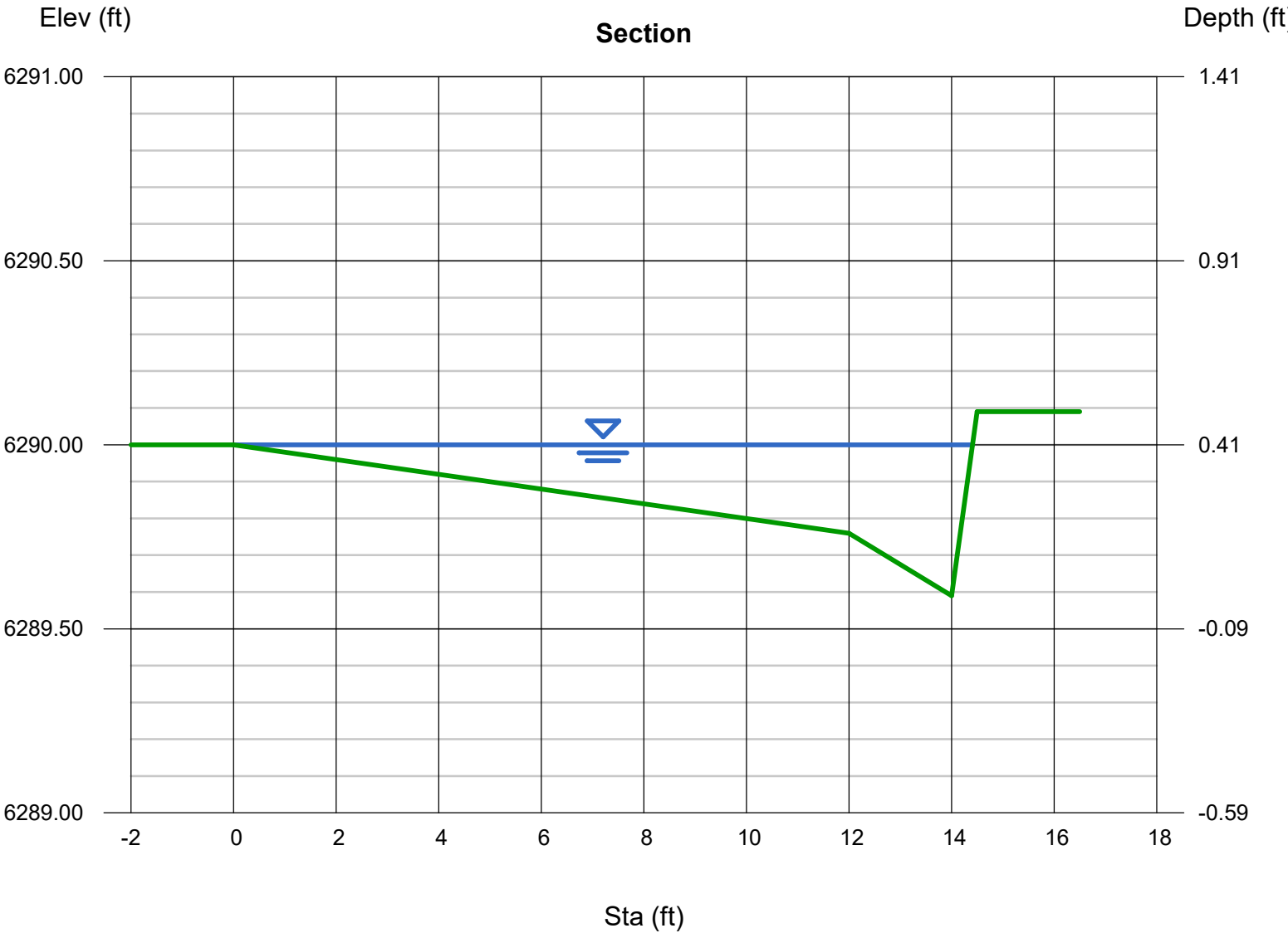
Notes:

1. The standard inlet parameters must apply to use this chart.

# Channel Report

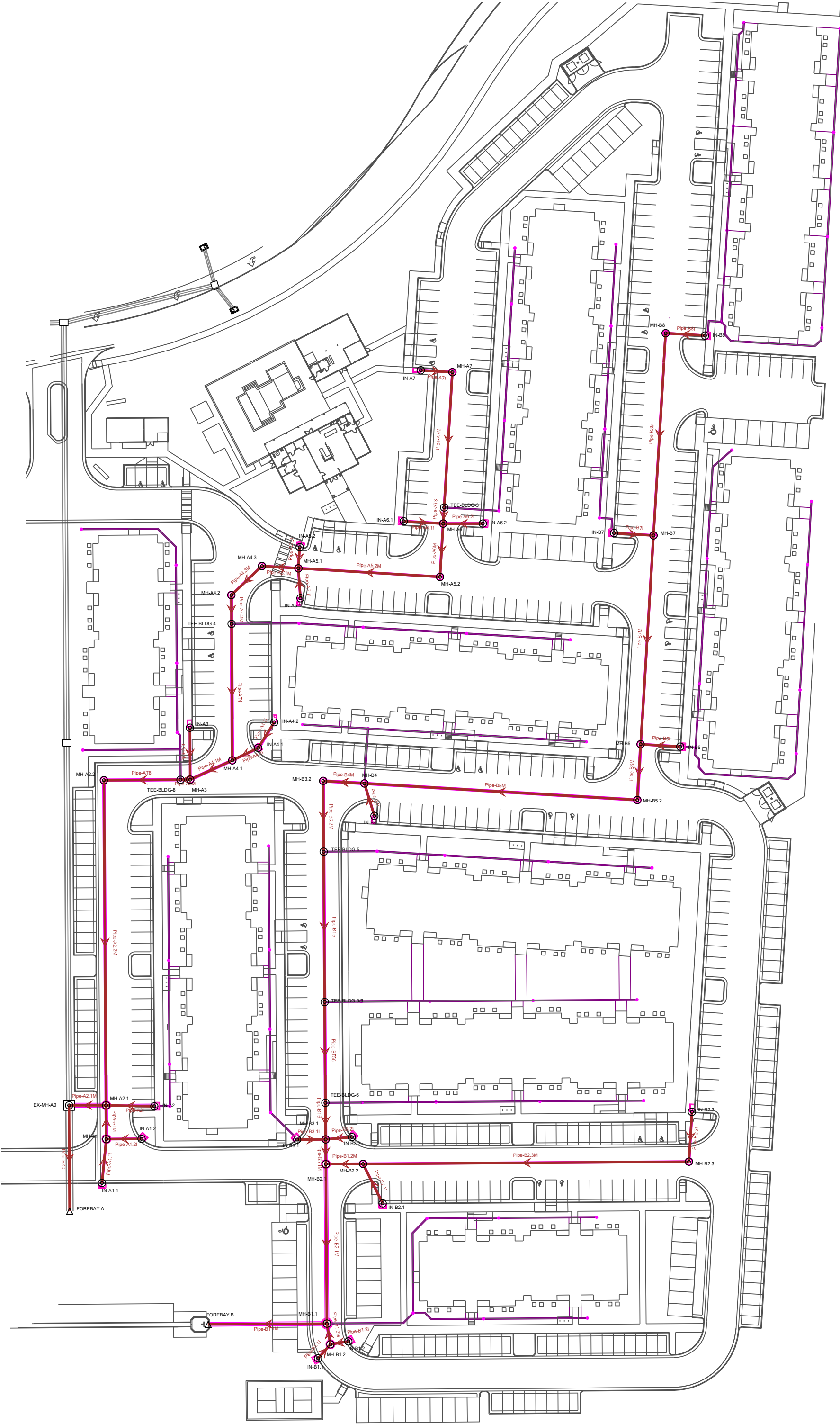
## Typical Street Section - Maximum Capacity

|                                                                                          |           |                     |         |
|------------------------------------------------------------------------------------------|-----------|---------------------|---------|
| <b>User-defined</b>                                                                      |           | <b>Highlighted</b>  |         |
| Invert Elev (ft)                                                                         | = 6289.59 | Depth (ft)          | = 0.41  |
| Slope (%)                                                                                | = 0.50    | Q (cfs)             | = 4.950 |
| N-Value                                                                                  | = 0.013   | Area (sqft)         | = 2.18  |
| <b>Calculations</b>                                                                      |           | Velocity (ft/s)     | = 2.27  |
| Compute by:                                                                              | Known Q   | Wetted Perim (ft)   | = 14.59 |
| Known Q (cfs)                                                                            | = 4.95    | Crit Depth, Yc (ft) | = 0.42  |
|                                                                                          |           | Top Width (ft)      | = 14.41 |
|                                                                                          |           | EGL (ft)            | = 0.49  |
| <b>(Sta, El, n)-(Sta, El, n)...</b>                                                      |           |                     |         |
| ( 0.00, 6290.00)-(12.00, 6289.76, 0.013)-(14.00, 6289.59, 0.013)-(14.50, 6290.09, 0.013) |           |                     |         |

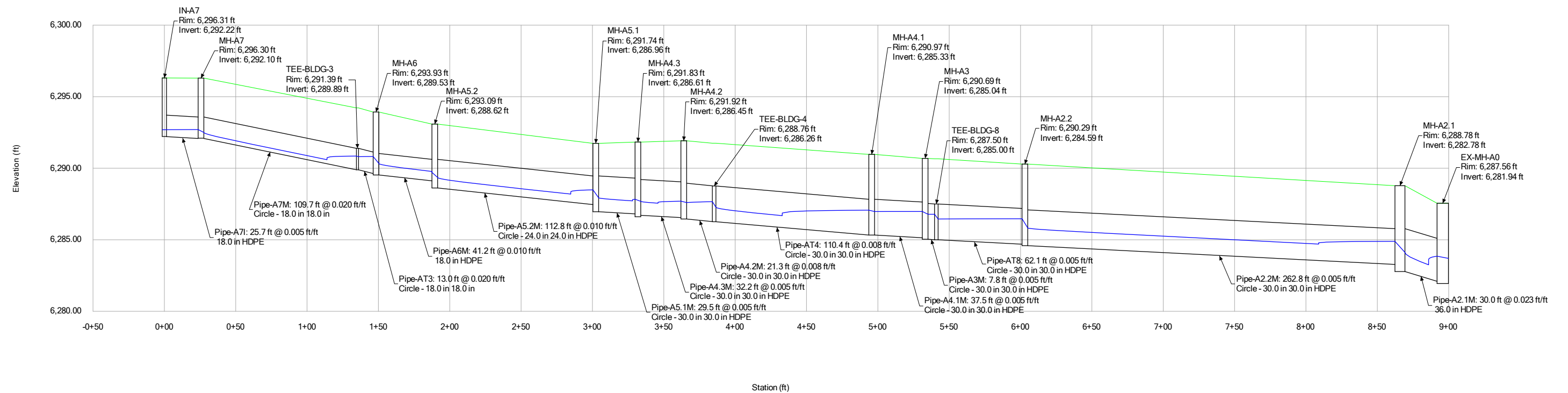




STORMCAD LAYOUT  
HILLPOINTE APARTMENTS AT PETERSON



Hillpointe Apartments at Peterson  
5-Year Storm Free Outfall - Main A



Hillpointe Apartments at Peterson  
5-Year Storm Free Outfall - Main A

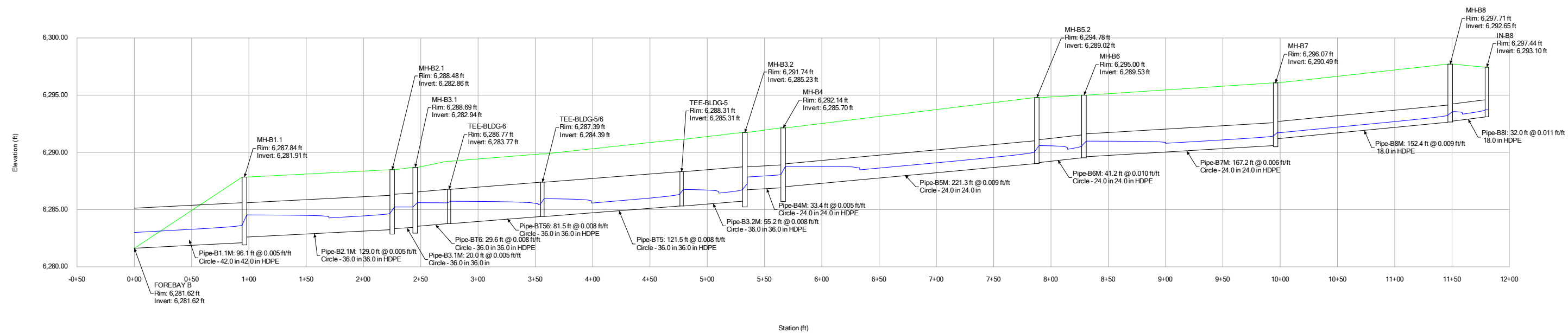
Manhole Table - Time: 0.00 hours

| Label      | Elevation (Rim)<br>(ft) | Elevation (Invert)<br>(ft) | Flow (Known)<br>(cfs) | Headloss<br>Coefficient<br>(Standard) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) | Notes              |
|------------|-------------------------|----------------------------|-----------------------|---------------------------------------|--------------------------------------|------------------------------------------|--------------------|
| IN-A7      | 6,296.31                | 6,292.22                   | 1.28                  | 0.000                                 | 6,292.69                             | 6,292.69                                 | 5' TYPE-R INLET    |
| MH-A7      | 6,296.30                | 6,292.10                   | 1.28                  | 1.320                                 | 6,292.70                             | 6,292.50                                 | FLAT TOP SDMH      |
| MH-A6      | 6,293.93                | 6,289.53                   | 4.37                  | 1.520                                 | 6,290.82                             | 6,290.33                                 | FLAT TOP SDMH      |
| IN-A6.2    | 6,293.70                | 6,289.80                   | 1.60                  | 0.000                                 | 6,290.83                             | 6,290.83                                 | 5' TYPE-R INLET    |
| IN-A6.1    | 6,293.66                | 6,289.80                   | 0.90                  | 0.000                                 | 6,290.82                             | 6,290.82                                 | 5' TYPE-R INLET    |
| MH-A5.2    | 6,293.09                | 6,288.62                   | 4.37                  | 1.320                                 | 6,289.71                             | 6,289.35                                 | FLAT TOP SDMH      |
| MH-A4.2    | 6,291.92                | 6,286.45                   | 8.59                  | 0.400                                 | 6,287.70                             | 6,287.60                                 | FLAT TOP SDMH      |
| IN-A5.2    | 6,291.89                | 6,288.36                   | 1.92                  | 0.000                                 | 6,289.02                             | 6,289.02                                 | 5' TYPE-R INLET    |
| MH-A4.3    | 6,291.83                | 6,286.61                   | 8.59                  | 0.400                                 | 6,287.83                             | 6,287.69                                 | FLAT TOP SDMH      |
| MH-A5.1    | 6,291.74                | 6,286.96                   | 8.59                  | 1.520                                 | 6,288.49                             | 6,287.94                                 | FLAT TOP SDMH      |
| IN-A5.1    | 6,291.60                | 6,288.39                   | 2.30                  | 0.000                                 | 6,289.14                             | 6,289.14                                 | 5' TYPE-R INLET    |
| IN-A4.1    | 6,291.15                | 6,287.11                   | 2.46                  | 0.400                                 | 6,287.91                             | 6,287.87                                 | 5' TYPE-R INLET    |
| MH-A4.1    | 6,290.97                | 6,285.33                   | 11.70                 | 0.520                                 | 6,287.07                             | 6,286.97                                 | FLAT TOP SDMH      |
| IN-A4.2    | 6,290.94                | 6,287.33                   | 0.69                  | 0.000                                 | 6,287.92                             | 6,287.92                                 | 5' TYPE-R INLET    |
| IN-A3      | 6,290.91                | 6,286.83                   | 1.01                  | 0.000                                 | 6,287.34                             | 6,287.34                                 | 5' TYPE-R INLET    |
| MH-A3      | 6,290.69                | 6,285.04                   | 12.71                 | 1.020                                 | 6,286.98                             | 6,286.78                                 | FLAT TOP SDMH      |
| MH-A2.2    | 6,290.29                | 6,284.59                   | 13.54                 | 1.320                                 | 6,286.47                             | 6,285.83                                 | FLAT TOP SDMH      |
| TEE-BLDG-4 | 6,288.76                | 6,286.26                   | 9.24                  | 1.020                                 | 6,287.66                             | 6,287.27                                 | 30" X 12" HDPE TEE |
| TEE-BLDG-8 | 6,287.50                | 6,285.00                   | 13.54                 | 1.020                                 | 6,286.78                             | 6,286.45                                 | 30" X 12" HDPE TEE |
| MH-A2.1    | 6,288.78                | 6,282.78                   | 17.43                 | 1.520                                 | 6,284.89                             | 6,284.12                                 | FLAT TOP SDMH      |
| IN-A1.1    | 6,288.70                | 6,284.87                   | 1.38                  | 0.000                                 | 6,285.36                             | 6,285.36                                 | 5' TYPE-R INLET    |
| IN-A2      | 6,288.65                | 6,284.75                   | 2.28                  | 0.000                                 | 6,285.46                             | 6,285.46                                 | 5' TYPE-R INLET    |
| MH-A1      | 6,288.59                | 6,284.19                   | 1.61                  | 1.020                                 | 6,284.92                             | 6,284.90                                 | FLAT TOP SDMH      |
| IN-A1.2    | 6,288.56                | 6,284.83                   | 0.23                  | 0.000                                 | 6,284.95                             | 6,284.95                                 | 5' TYPE-R INLET    |
| EX-MH-A0   | 6,287.56                | 6,281.94                   | 28.40                 | 1.020                                 | 6,283.85                             | 6,283.70                                 | SDMH               |
| TEE-BLDG-3 | 6,291.39                | 6,289.89                   | 1.87                  | 1.020                                 | 6,290.85                             | 6,290.81                                 | 18" X 12" HDPE TEE |

**Hillpointe Apartments at Peterson**  
**5-Year Storm Free Outfall - Main A**  
**Conduit Table - Time: 0.00 hours**

| Label      | Start Node | Stop Node  | Diameter<br>(in) | Length (User<br>Defined)<br>(ft) | Manning's n | Flow<br>(cfs) | Velocity<br>(ft/s) | Invert (Start)<br>(ft) | Invert (Stop)<br>(ft) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) |
|------------|------------|------------|------------------|----------------------------------|-------------|---------------|--------------------|------------------------|-----------------------|--------------------------------------|------------------------------------------|
| Pipe-EX0   | FOREBAY A  | EX-MH-A0   | 48.0             | 85.5                             | 0.012       | 28.40         | 2.28               | 6,281.93               | 6,281.50              | 6,283.70                             | 6,283.27                                 |
| Pipe-A7I   | IN-A7      | MH-A7      | 18.0             | 25.7                             | 0.012       | 1.28          | 3.35               | 6,292.21               | 6,292.08              | 6,292.69                             | 6,292.70                                 |
| Pipe-A6M   | MH-A6      | MH-A5.2    | 18.0             | 41.2                             | 0.012       | 4.37          | 6.00               | 6,289.53               | 6,289.12              | 6,290.33                             | 6,289.77                                 |
| Pipe-A6.2I | MH-A6      | IN-A6.2    | 18.0             | 32.1                             | 0.012       | 1.60          | 0.91               | 6,289.79               | 6,289.63              | 6,290.83                             | 6,290.82                                 |
| Pipe-A6.1I | MH-A6      | IN-A6.1    | 18.0             | 32.0                             | 0.012       | 0.90          | 0.51               | 6,289.79               | 6,289.63              | 6,290.82                             | 6,290.82                                 |
| Pipe-A5.2M | MH-A5.2    | MH-A5.1    | 24.0             | 112.8                            | 0.012       | 4.37          | 5.95               | 6,288.62               | 6,287.46              | 6,289.35                             | 6,288.49                                 |
| Pipe-A4.2M | MH-A4.2    | TEE-BLDG-4 | 30.0             | 21.3                             | 0.012       | 8.59          | 6.59               | 6,286.45               | 6,286.27              | 6,287.60                             | 6,287.66                                 |
| Pipe-A4.3M | MH-A4.3    | MH-A4.2    | 30.0             | 32.2                             | 0.012       | 8.59          | 5.44               | 6,286.71               | 6,286.55              | 6,287.69                             | 6,287.70                                 |
| Pipe-A5.2I | MH-A5.1    | IN-A5.2    | 18.0             | 17.1                             | 0.012       | 1.92          | 1.09               | 6,288.35               | 6,288.26              | 6,289.02                             | 6,288.87                                 |
| Pipe-A5.1M | MH-A5.1    | MH-A4.3    | 30.0             | 29.5                             | 0.012       | 8.59          | 5.49               | 6,286.96               | 6,286.81              | 6,287.94                             | 6,287.83                                 |
| Pipe-A5.1I | MH-A5.1    | IN-A5.1    | 18.0             | 24.3                             | 0.012       | 2.30          | 1.30               | 6,288.38               | 6,288.26              | 6,289.14                             | 6,288.95                                 |
| Pipe-A4.1I | MH-A4.1    | IN-A4.1    | 18.0             | 21.1                             | 0.012       | 2.46          | 1.39               | 6,287.10               | 6,286.99              | 6,287.87                             | 6,287.69                                 |
| Pipe-A4.2I | IN-A4.1    | IN-A4.2    | 18.0             | 22.6                             | 0.012       | 0.69          | 0.39               | 6,287.31               | 6,287.20              | 6,287.92                             | 6,287.91                                 |
| Pipe-A4.1M | MH-A4.1    | MH-A3      | 30.0             | 37.5                             | 0.012       | 11.70         | 5.96               | 6,285.33               | 6,285.14              | 6,286.97                             | 6,286.98                                 |
| Pipe-AT4   | TEE-BLDG-4 | MH-A4.1    | 30.0             | 110.4                            | 0.012       | 9.24          | 6.72               | 6,286.26               | 6,285.33              | 6,287.27                             | 6,287.07                                 |
| Pipe-A3I   | MH-A3      | IN-A3      | 18.0             | 42.7                             | 0.012       | 1.01          | 0.57               | 6,286.81               | 6,286.60              | 6,287.34                             | 6,287.19                                 |
| Pipe-A3M   | MH-A3      | TEE-BLDG-8 | 30.0             | 7.8                              | 0.012       | 12.71         | 6.11               | 6,285.04               | 6,285.00              | 6,286.78                             | 6,286.78                                 |
| Pipe-A2.2M | MH-A2.2    | MH-A2.1    | 30.0             | 262.8                            | 0.012       | 13.54         | 6.16               | 6,284.59               | 6,283.28              | 6,285.83                             | 6,284.89                                 |
| Pipe-AT8   | TEE-BLDG-8 | MH-A2.2    | 30.0             | 62.1                             | 0.012       | 13.54         | 6.16               | 6,285.00               | 6,284.69              | 6,286.45                             | 6,286.47                                 |
| Pipe-A1M   | MH-A2.1    | MH-A1      | 24.0             | 27.3                             | 0.012       | 1.61          | 0.51               | 6,283.98               | 6,283.78              | 6,284.90                             | 6,284.89                                 |
| Pipe-A2.1M | MH-A2.1    | EX-MH-A0   | 36.0             | 30.0                             | 0.012       | 17.43         | 11.28              | 6,282.78               | 6,282.10              | 6,284.12                             | 6,283.85                                 |
| Pipe-A2I   | MH-A2.1    | IN-A2      | 18.0             | 39.0                             | 0.012       | 2.28          | 1.29               | 6,284.67               | 6,284.28              | 6,285.46                             | 6,285.24                                 |
| Pipe-A1.1I | MH-A1      | IN-A1.1    | 18.0             | 35.7                             | 0.012       | 1.38          | 0.78               | 6,284.75               | 6,284.48              | 6,285.36                             | 6,285.19                                 |
| Pipe-A1.2I | MH-A1      | IN-A1.2    | 18.0             | 28.5                             | 0.012       | 0.23          | 0.13               | 6,284.69               | 6,284.48              | 6,284.95                             | 6,284.92                                 |
| Pipe-AT3   | TEE-BLDG-3 | MH-A6      | 18.0             | 13.0                             | 0.012       | 1.87          | 6.08               | 6,289.89               | 6,289.63              | 6,290.81                             | 6,290.82                                 |
| Pipe-A7M   | MH-A7      | TEE-BLDG-3 | 18.0             | 109.7                            | 0.012       | 1.28          | 5.44               | 6,292.08               | 6,289.89              | 6,292.50                             | 6,290.85                                 |

Hillpointe Apartments at Peterson  
5-Year Storm Free Outfall - Main B



Hillpointe Apartments at Peterson  
5-Year Storm Free Outfall - Main B

Manhole Table - Time: 0.00 hours

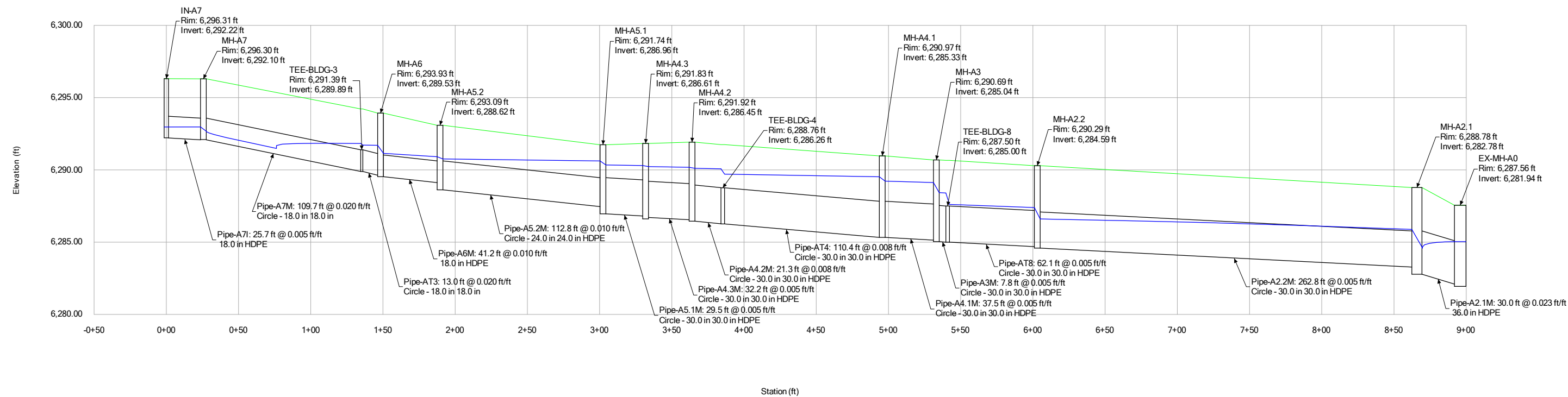
| Label        | Elevation (Rim)<br>(ft) | Elevation<br>(Invert)<br>(ft) | Flow (Known)<br>(cfs) | Headloss<br>Coefficient<br>(Standard) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) | Notes              |
|--------------|-------------------------|-------------------------------|-----------------------|---------------------------------------|--------------------------------------|------------------------------------------|--------------------|
| MH-B8        | 6,297.71                | 6,292.65                      | 2.70                  | 1.320                                 | 6,293.56                             | 6,293.25                                 | SDMH               |
| IN-B8        | 6,297.44                | 6,293.10                      | 2.70                  | 0.000                                 | 6,293.71                             | 6,293.71                                 | 5' TYPE-R INLET    |
| MH-B7        | 6,296.07                | 6,290.49                      | 5.74                  | 1.020                                 | 6,291.76                             | 6,291.44                                 | SDMH               |
| IN-B7        | 6,295.80                | 6,290.31                      | 3.04                  | 0.000                                 | 6,292.35                             | 6,292.35                                 | 5' TYPE-R INLET    |
| MH-B6        | 6,295.00                | 6,289.53                      | 8.50                  | 1.020                                 | 6,290.98                             | 6,290.56                                 | SDMH               |
| MH-B5.2      | 6,294.78                | 6,289.02                      | 8.50                  | 1.320                                 | 6,290.59                             | 6,290.05                                 | SDMH               |
| IN-B6        | 6,294.74                | 6,289.76                      | 2.76                  | 0.000                                 | 6,291.08                             | 6,291.08                                 | 5' TYPE-R INLET    |
| IN-B2.3      | 6,292.94                | 6,287.90                      | 0.96                  | 0.000                                 | 6,288.41                             | 6,288.41                                 | 5' TYPE-R INLET    |
| MH-B2.3      | 6,292.25                | 6,285.93                      | 0.96                  | 1.320                                 | 6,286.52                             | 6,286.51                                 | SDMH               |
| MH-B4        | 6,292.14                | 6,285.70                      | 10.47                 | 1.520                                 | 6,288.79                             | 6,288.06                                 | SDMH               |
| IN-B4        | 6,292.10                | 6,287.35                      | 1.38                  | 0.000                                 | 6,288.79                             | 6,288.79                                 | 5' TYPE-R INLET    |
| MH-B3.2      | 6,291.74                | 6,285.23                      | 10.47                 | 1.320                                 | 6,287.25                             | 6,286.75                                 | SDMH               |
| IN-B3.2      | 6,288.62                | 6,284.40                      | 2.15                  | 0.000                                 | 6,285.63                             | 6,285.63                                 | 5' TYPE-R INLET    |
| MH-B3.1      | 6,288.69                | 6,282.94                      | 17.55                 | 1.520                                 | 6,285.60                             | 6,285.23                                 | FLAT TOP SDMH      |
| IN-B3.1      | 6,288.75                | 6,284.85                      | 2.09                  | 0.000                                 | 6,285.67                             | 6,285.67                                 | 5' TYPE-R INLET    |
| TEE-BLDG-5   | 6,288.31                | 6,285.31                      | 11.06                 | 1.020                                 | 6,286.76                             | 6,286.36                                 | 36" X 12" HDPE TEE |
| MH-B2.1      | 6,288.48                | 6,282.86                      | 19.70                 | 1.020                                 | 6,285.23                             | 6,284.66                                 | FLAT TOP SDMH      |
| MH-B2.2      | 6,288.62                | 6,284.51                      | 2.15                  | 0.520                                 | 6,285.34                             | 6,285.31                                 | FLAT TOP SDMH      |
| IN-B2.1      | 6,287.99                | 6,284.89                      | 1.19                  | 0.000                                 | 6,285.46                             | 6,285.46                                 | 5' TYPE-R INLET    |
| IN-B1.2      | 6,287.88                | 6,283.58                      | 2.27                  | 0.000                                 | 6,284.73                             | 6,284.73                                 | 5' TYPE-R INLET    |
| IN-B1.1      | 6,287.87                | 6,283.58                      | 3.13                  | 0.000                                 | 6,284.81                             | 6,284.81                                 | 5' TYPE-R INLET    |
| MH-B1.1      | 6,287.84                | 6,281.91                      | 25.10                 | 1.520                                 | 6,284.53                             | 6,283.64                                 | FLAT TOP SDMH      |
| MH-B1.2      | 6,287.78                | 6,283.79                      | 5.40                  | 1.020                                 | 6,284.68                             | 6,284.59                                 | FLAT TOP SDMH      |
| TEE-BLDG-5/6 | 6,287.39                | 6,284.39                      | 12.72                 | 1.020                                 | 6,285.95                             | 6,285.52                                 | 36" X 12" HDPE TEE |
| TEE-BLDG-6   | 6,286.77                | 6,283.77                      | 13.31                 | 1.020                                 | 6,285.73                             | 6,285.59                                 | 36" X 12" HDPE TEE |



**Hillpointe Apartments at Peterson**  
**5-Year Storm Free Outfall - Main B**  
**Conduit Table - Time: 0.00 hours**

| Label      | Start Node   | Stop Node    | Diameter<br>(in) | Length (User<br>Defined)<br>(ft) | Manning's n | Flow<br>(cfs) | Velocity<br>(ft/s) | Invert (Start)<br>(ft) | Invert (Stop)<br>(ft) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) |
|------------|--------------|--------------|------------------|----------------------------------|-------------|---------------|--------------------|------------------------|-----------------------|--------------------------------------|------------------------------------------|
| Pipe-B1.1M | MH-B1.1      | FOREBAY B    | 42.0             | 96.1                             | 0.012       | 25.10         | 7.16               | 6,282.10               | 6,281.62              | 6,283.64                             | 6,283.00                                 |
| Pipe-B8M   | MH-B8        | MH-B7        | 18.0             | 152.4                            | 0.012       | 2.70          | 5.16               | 6,292.63               | 6,291.20              | 6,293.25                             | 6,291.71                                 |
| Pipe-B8I   | IN-B8        | MH-B8        | 18.0             | 32.0                             | 0.012       | 2.70          | 5.50               | 6,293.09               | 6,292.73              | 6,293.71                             | 6,293.56                                 |
| Pipe-B7M   | MH-B7        | MH-B6        | 24.0             | 167.2                            | 0.012       | 5.74          | 5.23               | 6,290.59               | 6,289.62              | 6,291.44                             | 6,290.98                                 |
| Pipe-B7I   | MH-B7        | IN-B7        | 18.0             | 32.0                             | 0.012       | 3.04          | 1.72               | 6,291.46               | 6,291.30              | 6,292.35                             | 6,292.13                                 |
| Pipe-B6M   | MH-B6        | MH-B5.2      | 24.0             | 41.2                             | 0.012       | 8.50          | 7.08               | 6,289.52               | 6,289.11              | 6,290.56                             | 6,290.59                                 |
| Pipe-B6I   | MH-B6        | IN-B6        | 18.0             | 30.1                             | 0.012       | 2.76          | 1.56               | 6,290.18               | 6,290.03              | 6,291.08                             | 6,290.98                                 |
| Pipe-B2.3I | MH-B2.3      | IN-B2.3      | 18.0             | 40.4                             | 0.012       | 0.96          | 0.54               | 6,287.90               | 6,286.23              | 6,288.41                             | 6,288.27                                 |
| Pipe-B2.3M | MH-B2.2      | MH-B2.3      | 18.0             | 263.8                            | 0.012       | 0.96          | 0.54               | 6,285.93               | 6,284.61              | 6,286.51                             | 6,286.30                                 |
| Pipe-B4M   | MH-B4        | MH-B3.2      | 24.0             | 33.4                             | 0.012       | 10.47         | 5.81               | 6,286.90               | 6,286.73              | 6,288.06                             | 6,287.85                                 |
| Pipe-B4I   | MH-B4        | IN-B4        | 18.0             | 27.4                             | 0.012       | 1.38          | 0.78               | 6,287.35               | 6,287.21              | 6,288.79                             | 6,288.79                                 |
| Pipe-B3.2M | MH-B3.2      | TEE-BLDG-5   | 36.0             | 55.2                             | 0.012       | 10.47         | 6.60               | 6,285.73               | 6,285.31              | 6,286.75                             | 6,286.76                                 |
| Pipe-B3.2I | MH-B3.1      | IN-B3.2      | 18.0             | 14.0                             | 0.012       | 2.15          | 1.22               | 6,284.76               | 6,284.69              | 6,285.63                             | 6,285.60                                 |
| Pipe-B3.1I | MH-B3.1      | IN-B3.1      | 18.0             | 32.0                             | 0.012       | 2.09          | 1.18               | 6,284.85               | 6,284.69              | 6,285.67                             | 6,285.60                                 |
| Pipe-BT5   | TEE-BLDG-5   | TEE-BLDG-5/6 | 36.0             | 121.5                            | 0.012       | 11.06         | 6.69               | 6,285.31               | 6,284.39              | 6,286.36                             | 6,285.95                                 |
| Pipe-B1.2M | MH-B2.1      | MH-B2.2      | 18.0             | 30.1                             | 0.012       | 2.15          | 1.22               | 6,284.51               | 6,284.36              | 6,285.31                             | 6,285.23                                 |
| Pipe-B2.1M | MH-B2.1      | MH-B1.1      | 36.0             | 129.0                            | 0.012       | 19.70         | 6.74               | 6,283.24               | 6,282.60              | 6,284.66                             | 6,284.53                                 |
| Pipe-B2.1I | MH-B2.2      | IN-B2.1      | 18.0             | 35.6                             | 0.012       | 1.19          | 0.67               | 6,284.89               | 6,284.71              | 6,285.46                             | 6,285.34                                 |
| Pipe-B1.2I | MH-B1.2      | IN-B1.2      | 18.0             | 14.8                             | 0.012       | 2.27          | 1.28               | 6,283.95               | 6,283.88              | 6,284.73                             | 6,284.68                                 |
| Pipe-B1.1I | MH-B1.2      | IN-B1.1      | 18.0             | 15.1                             | 0.012       | 3.13          | 1.77               | 6,283.96               | 6,283.88              | 6,284.81                             | 6,284.68                                 |
| Pipe-B1.2M | MH-B1.1      | MH-B1.2      | 24.0             | 15.0                             | 0.012       | 5.40          | 1.72               | 6,283.38               | 6,283.20              | 6,284.59                             | 6,284.53                                 |
| Pipe-B3.1M | MH-B3.1      | MH-B2.1      | 36.0             | 20.0                             | 0.013       | 17.55         | 6.18               | 6,283.44               | 6,283.34              | 6,285.23                             | 6,285.23                                 |
| Pipe-B5M   | MH-B5.2      | MH-B4        | 24.0             | 221.3                            | 0.013       | 8.50          | 6.46               | 6,289.01               | 6,287.00              | 6,290.05                             | 6,288.79                                 |
| Pipe-BT56  | TEE-BLDG-5/6 | TEE-BLDG-6   | 36.0             | 81.5                             | 0.012       | 12.72         | 6.98               | 6,284.39               | 6,283.77              | 6,285.52                             | 6,285.73                                 |
| Pipe-BT6   | TEE-BLDG-6   | MH-B3.1      | 36.0             | 29.6                             | 0.012       | 13.31         | 7.13               | 6,283.77               | 6,283.54              | 6,285.59                             | 6,285.60                                 |

Hillpointe Apartments at Peterson  
100-Yr Storm Free Outfall - Main A





Hillpointe Apartments at Peterson  
100-Yr Storm Free Outfall - Main A

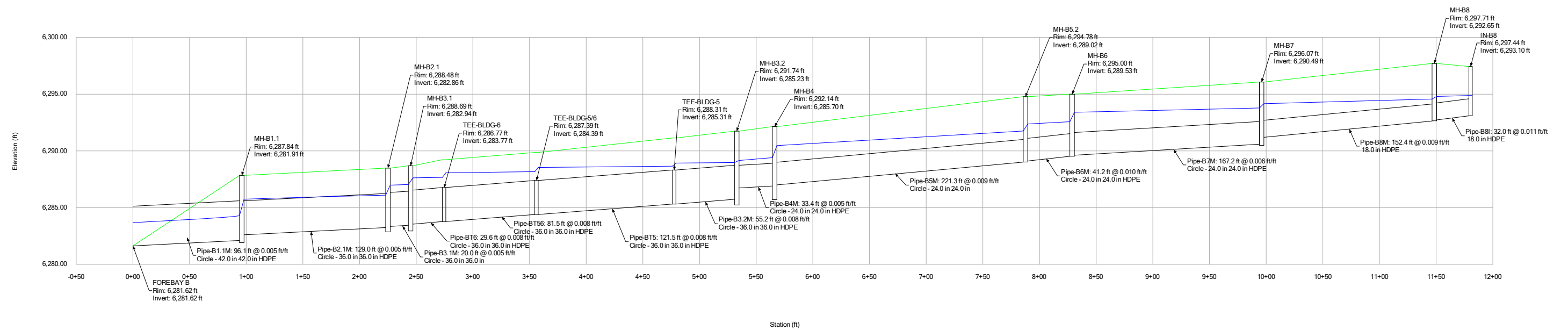
Manhole Table - Time: 0.00 hours

| Label      | Elevation (Rim)<br>(ft) | Elevation (Invert)<br>(ft) | Flow (Known)<br>(cfs) | Headloss<br>Coefficient<br>(Standard) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) | Notes              |
|------------|-------------------------|----------------------------|-----------------------|---------------------------------------|--------------------------------------|------------------------------------------|--------------------|
| IN-A7      | 6,296.31                | 6,292.22                   | 2.49                  | 0.000                                 | 6,292.97                             | 6,292.97                                 | 5' TYPE-R INLET    |
| MH-A7      | 6,296.30                | 6,292.10                   | 2.49                  | 1.320                                 | 6,292.97                             | 6,292.68                                 | FLAT TOP SDMH      |
| MH-A6      | 6,293.93                | 6,289.53                   | 8.58                  | 1.520                                 | 6,291.70                             | 6,291.14                                 | FLAT TOP SDMH      |
| IN-A6.2    | 6,293.70                | 6,289.80                   | 3.06                  | 0.000                                 | 6,291.72                             | 6,291.72                                 | 5' TYPE-R INLET    |
| IN-A6.1    | 6,293.66                | 6,289.80                   | 1.93                  | 0.000                                 | 6,291.71                             | 6,291.71                                 | 5' TYPE-R INLET    |
| MH-A5.2    | 6,293.09                | 6,288.62                   | 8.58                  | 1.320                                 | 6,290.91                             | 6,290.76                                 | FLAT TOP SDMH      |
| MH-A4.2    | 6,291.92                | 6,286.45                   | 16.82                 | 0.400                                 | 6,290.18                             | 6,290.11                                 | FLAT TOP SDMH      |
| IN-A5.2    | 6,291.89                | 6,288.36                   | 4.51                  | 0.000                                 | 6,290.65                             | 6,290.65                                 | 5' TYPE-R INLET    |
| MH-A4.3    | 6,291.83                | 6,286.61                   | 16.82                 | 0.400                                 | 6,290.30                             | 6,290.23                                 | FLAT TOP SDMH      |
| MH-A5.1    | 6,291.74                | 6,286.96                   | 16.82                 | 1.520                                 | 6,290.62                             | 6,290.34                                 | FLAT TOP SDMH      |
| IN-A5.1    | 6,291.60                | 6,288.39                   | 3.73                  | 0.000                                 | 6,290.65                             | 6,290.65                                 | 5' TYPE-R INLET    |
| IN-A4.1    | 6,291.15                | 6,287.11                   | 4.74                  | 0.400                                 | 6,289.61                             | 6,289.56                                 | 5' TYPE-R INLET    |
| MH-A4.1    | 6,290.97                | 6,285.33                   | 22.77                 | 0.900                                 | 6,289.52                             | 6,289.22                                 | FLAT TOP SDMH      |
| IN-A4.2    | 6,290.94                | 6,287.33                   | 1.30                  | 0.000                                 | 6,289.61                             | 6,289.61                                 | 5' TYPE-R INLET    |
| IN-A3      | 6,290.91                | 6,286.83                   | 1.98                  | 0.000                                 | 6,289.14                             | 6,289.14                                 | 5' TYPE-R INLET    |
| MH-A3      | 6,290.69                | 6,285.04                   | 24.75                 | 1.770                                 | 6,289.13                             | 6,288.43                                 | FLAT TOP SDMH      |
| MH-A2.2    | 6,290.29                | 6,284.59                   | 26.30                 | 1.320                                 | 6,287.39                             | 6,286.60                                 | FLAT TOP SDMH      |
| TEE-BLDG-4 | 6,288.76                | 6,286.26                   | 18.03                 | 1.770                                 | 6,290.08                             | 6,289.71                                 | 30" X 12" HDPE TEE |
| TEE-BLDG-8 | 6,287.50                | 6,285.00                   | 26.30                 | 1.770                                 | 6,288.40                             | 6,287.61                                 | 30" X 12" HDPE TEE |
| MH-A2.1    | 6,288.78                | 6,282.78                   | 33.59                 | 1.520                                 | 6,285.89                             | 6,284.66                                 | FLAT TOP SDMH      |
| IN-A1.1    | 6,288.70                | 6,284.87                   | 2.50                  | 0.000                                 | 6,285.94                             | 6,285.94                                 | 5' TYPE-R INLET    |
| IN-A2      | 6,288.65                | 6,284.75                   | 4.34                  | 0.000                                 | 6,285.97                             | 6,285.97                                 | 5' TYPE-R INLET    |
| MH-A1      | 6,288.59                | 6,284.19                   | 2.95                  | 1.770                                 | 6,285.91                             | 6,285.89                                 | FLAT TOP SDMH      |
| IN-A1.2    | 6,288.56                | 6,284.83                   | 0.45                  | 0.000                                 | 6,285.91                             | 6,285.91                                 | 5' TYPE-R INLET    |
| EX-MH-A0   | 6,287.56                | 6,281.94                   | 90.20                 | 0.000                                 | 6,285.04                             | 6,285.04                                 | SDMH               |
| TEE-BLDG-3 | 6,291.39                | 6,289.89                   | 3.59                  | 1.770                                 | 6,291.83                             | 6,291.71                                 | 18" X 12" HDPE TEE |

**Hillpointe Apartments at Peterson**  
**100-Yr Storm Free Outfall - Main A**  
**Conduit Table - Time: 0.00 hours**

| Label      | Start Node | Stop Node  | Diameter<br>(in) | Length (User<br>Defined)<br>(ft) | Manning's n | Flow<br>(cfs) | Velocity<br>(ft/s) | Invert (Start)<br>(ft) | Invert (Stop)<br>(ft) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) |
|------------|------------|------------|------------------|----------------------------------|-------------|---------------|--------------------|------------------------|-----------------------|--------------------------------------|------------------------------------------|
| Pipe-EX0   | FOREBAY A  | EX-MH-A0   | 48.0             | 85.5                             | 0.012       | 90.20         | 7.25               | 6,281.93               | 6,281.50              | 6,285.04                             | 6,284.36                                 |
| Pipe-A7I   | IN-A7      | MH-A7      | 18.0             | 25.7                             | 0.012       | 2.49          | 4.04               | 6,292.21               | 6,292.08              | 6,292.97                             | 6,292.97                                 |
| Pipe-A6M   | MH-A6      | MH-A5.2    | 18.0             | 41.2                             | 0.012       | 8.58          | 4.86               | 6,289.53               | 6,289.12              | 6,291.14                             | 6,290.91                                 |
| Pipe-A6.2I | MH-A6      | IN-A6.2    | 18.0             | 32.1                             | 0.012       | 3.06          | 1.73               | 6,289.79               | 6,289.63              | 6,291.72                             | 6,291.70                                 |
| Pipe-A6.1I | MH-A6      | IN-A6.1    | 18.0             | 32.0                             | 0.012       | 1.93          | 1.09               | 6,289.79               | 6,289.63              | 6,291.71                             | 6,291.70                                 |
| Pipe-A5.2M | MH-A5.2    | MH-A5.1    | 24.0             | 112.8                            | 0.012       | 8.58          | 2.73               | 6,288.62               | 6,287.46              | 6,290.76                             | 6,290.62                                 |
| Pipe-A4.2M | MH-A4.2    | TEE-BLDG-4 | 30.0             | 21.3                             | 0.012       | 16.82         | 3.43               | 6,286.45               | 6,286.27              | 6,290.11                             | 6,290.08                                 |
| Pipe-A4.3M | MH-A4.3    | MH-A4.2    | 30.0             | 32.2                             | 0.012       | 16.82         | 3.43               | 6,286.71               | 6,286.55              | 6,290.23                             | 6,290.18                                 |
| Pipe-A5.2I | MH-A5.1    | IN-A5.2    | 18.0             | 17.1                             | 0.012       | 4.51          | 2.55               | 6,288.35               | 6,288.26              | 6,290.65                             | 6,290.62                                 |
| Pipe-A5.1M | MH-A5.1    | MH-A4.3    | 30.0             | 29.5                             | 0.012       | 16.82         | 3.43               | 6,286.96               | 6,286.81              | 6,290.34                             | 6,290.30                                 |
| Pipe-A5.1I | MH-A5.1    | IN-A5.1    | 18.0             | 24.3                             | 0.012       | 3.73          | 2.11               | 6,288.38               | 6,288.26              | 6,290.65                             | 6,290.62                                 |
| Pipe-A4.1I | MH-A4.1    | IN-A4.1    | 18.0             | 21.1                             | 0.012       | 4.74          | 2.68               | 6,287.10               | 6,286.99              | 6,289.56                             | 6,289.52                                 |
| Pipe-A4.2I | IN-A4.1    | IN-A4.2    | 18.0             | 22.6                             | 0.012       | 1.30          | 0.74               | 6,287.31               | 6,287.20              | 6,289.61                             | 6,289.61                                 |
| Pipe-A4.1M | MH-A4.1    | MH-A3      | 30.0             | 37.5                             | 0.012       | 22.77         | 4.64               | 6,285.33               | 6,285.14              | 6,289.22                             | 6,289.13                                 |
| Pipe-AT4   | TEE-BLDG-4 | MH-A4.1    | 30.0             | 110.4                            | 0.012       | 18.03         | 3.67               | 6,286.26               | 6,285.33              | 6,289.71                             | 6,289.52                                 |
| Pipe-A3I   | MH-A3      | IN-A3      | 18.0             | 42.7                             | 0.012       | 1.98          | 1.12               | 6,286.81               | 6,286.60              | 6,289.14                             | 6,289.13                                 |
| Pipe-A3M   | MH-A3      | TEE-BLDG-8 | 30.0             | 7.8                              | 0.012       | 24.75         | 5.04               | 6,285.04               | 6,285.00              | 6,288.43                             | 6,288.40                                 |
| Pipe-A2.2M | MH-A2.2    | MH-A2.1    | 30.0             | 262.8                            | 0.012       | 26.30         | 7.16               | 6,284.59               | 6,283.28              | 6,286.60                             | 6,285.89                                 |
| Pipe-AT8   | TEE-BLDG-8 | MH-A2.2    | 30.0             | 62.1                             | 0.012       | 26.30         | 5.36               | 6,285.00               | 6,284.69              | 6,287.61                             | 6,287.39                                 |
| Pipe-A1M   | MH-A2.1    | MH-A1      | 24.0             | 27.3                             | 0.012       | 2.95          | 0.94               | 6,283.98               | 6,283.78              | 6,285.89                             | 6,285.89                                 |
| Pipe-A2.1M | MH-A2.1    | EX-MH-A0   | 36.0             | 30.0                             | 0.012       | 33.59         | 13.56              | 6,282.78               | 6,282.10              | 6,284.66                             | 6,285.04                                 |
| Pipe-A2I   | MH-A2.1    | IN-A2      | 18.0             | 39.0                             | 0.012       | 4.34          | 2.46               | 6,284.67               | 6,284.28              | 6,285.97                             | 6,285.89                                 |
| Pipe-A1.1I | MH-A1      | IN-A1.1    | 18.0             | 35.7                             | 0.012       | 2.50          | 1.41               | 6,284.75               | 6,284.48              | 6,285.94                             | 6,285.91                                 |
| Pipe-A1.2I | MH-A1      | IN-A1.2    | 18.0             | 28.5                             | 0.012       | 0.45          | 0.25               | 6,284.69               | 6,284.48              | 6,285.91                             | 6,285.91                                 |
| Pipe-AT3   | TEE-BLDG-3 | MH-A6      | 18.0             | 13.0                             | 0.012       | 3.59          | 2.03               | 6,289.89               | 6,289.63              | 6,291.71                             | 6,291.70                                 |
| Pipe-A7M   | MH-A7      | TEE-BLDG-3 | 18.0             | 109.7                            | 0.012       | 2.49          | 6.61               | 6,292.08               | 6,289.89              | 6,292.68                             | 6,291.83                                 |

Hillpointe Apartments at Peterson  
100-Yr Storm Free Outfall - Main B



Hillpointe Apartments at Peterson  
100-Yr Storm Free Outfall - Main B

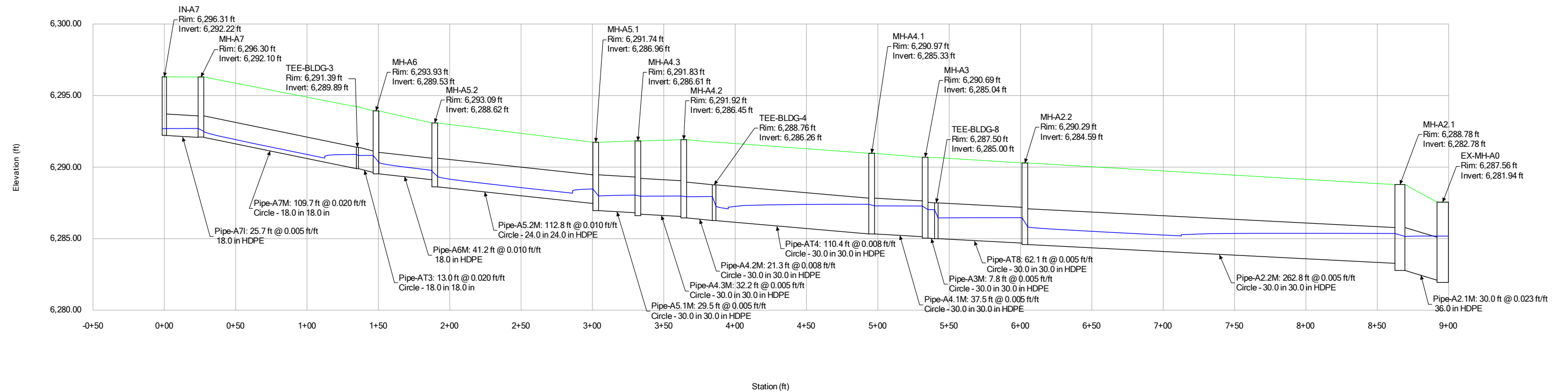
Manhole Table - Time: 0.00 hours

| Label        | Elevation (Rim)<br>(ft) | Elevation<br>(Invert)<br>(ft) | Flow (Known)<br>(cfs) | Headloss<br>Coefficient<br>(Standard) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) | Notes              |
|--------------|-------------------------|-------------------------------|-----------------------|---------------------------------------|--------------------------------------|------------------------------------------|--------------------|
| MH-B8        | 6,297.71                | 6,292.65                      | 5.88                  | 1.320                                 | 6,294.80                             | 6,294.57                                 | SDMH               |
| IN-B8        | 6,297.44                | 6,293.10                      | 5.88                  | 0.000                                 | 6,294.88                             | 6,294.88                                 | 5' TYPE-R INLET    |
| MH-B7        | 6,296.07                | 6,290.49                      | 11.69                 | 1.770                                 | 6,294.16                             | 6,293.78                                 | SDMH               |
| IN-B7        | 6,295.80                | 6,290.31                      | 5.81                  | 0.000                                 | 6,294.25                             | 6,294.25                                 | 5' TYPE-R INLET    |
| MH-B6        | 6,295.00                | 6,289.53                      | 17.23                 | 1.770                                 | 6,293.40                             | 6,292.57                                 | SDMH               |
| MH-B5.2      | 6,294.78                | 6,289.02                      | 17.23                 | 1.320                                 | 6,292.37                             | 6,291.75                                 | SDMH               |
| IN-B6        | 6,294.74                | 6,289.76                      | 5.54                  | 0.000                                 | 6,293.47                             | 6,293.47                                 | 5' TYPE-R INLET    |
| IN-B2.3      | 6,292.94                | 6,287.90                      | 1.83                  | 0.000                                 | 6,288.61                             | 6,288.61                                 | 5' TYPE-R INLET    |
| MH-B2.3      | 6,292.25                | 6,285.93                      | 1.83                  | 1.320                                 | 6,287.19                             | 6,287.17                                 | SDMH               |
| MH-B4        | 6,292.14                | 6,285.70                      | 21.11                 | 1.520                                 | 6,290.47                             | 6,289.40                                 | SDMH               |
| IN-B4        | 6,292.10                | 6,287.35                      | 2.78                  | 0.000                                 | 6,290.49                             | 6,290.49                                 | 5' TYPE-R INLET    |
| MH-B3.2      | 6,291.74                | 6,285.23                      | 21.11                 | 1.320                                 | 6,289.15                             | 6,288.97                                 | SDMH               |
| IN-B3.2      | 6,288.62                | 6,284.40                      | 4.20                  | 0.000                                 | 6,287.64                             | 6,287.64                                 | 5' TYPE-R INLET    |
| MH-B3.1      | 6,288.69                | 6,282.94                      | 35.22                 | 1.520                                 | 6,287.62                             | 6,287.04                                 | FLAT TOP SDMH      |
| IN-B3.1      | 6,288.75                | 6,284.85                      | 4.02                  | 0.000                                 | 6,287.66                             | 6,287.66                                 | 5' TYPE-R INLET    |
| TEE-BLDG-5   | 6,288.31                | 6,285.31                      | 22.21                 | 1.770                                 | 6,288.92                             | 6,288.65                                 | 36" X 12" HDPE TEE |
| MH-B2.1      | 6,288.48                | 6,282.86                      | 39.34                 | 1.770                                 | 6,286.98                             | 6,286.10                                 | FLAT TOP SDMH      |
| MH-B2.2      | 6,288.62                | 6,284.51                      | 4.12                  | 0.900                                 | 6,287.09                             | 6,287.02                                 | FLAT TOP SDMH      |
| IN-B2.1      | 6,287.99                | 6,284.89                      | 2.29                  | 0.000                                 | 6,287.11                             | 6,287.11                                 | 5' TYPE-R INLET    |
| IN-B1.2      | 6,287.88                | 6,283.58                      | 4.45                  | 0.000                                 | 6,286.10                             | 6,286.10                                 | 5' TYPE-R INLET    |
| IN-B1.1      | 6,287.87                | 6,283.58                      | 6.03                  | 0.000                                 | 6,286.12                             | 6,286.12                                 | 5' TYPE-R INLET    |
| MH-B1.1      | 6,287.84                | 6,281.91                      | 49.82                 | 1.520                                 | 6,285.74                             | 6,284.31                                 | FLAT TOP SDMH      |
| MH-B1.2      | 6,287.78                | 6,283.79                      | 10.48                 | 1.770                                 | 6,286.08                             | 6,285.77                                 | FLAT TOP SDMH      |
| TEE-BLDG-5/6 | 6,287.39                | 6,284.39                      | 25.90                 | 1.770                                 | 6,288.54                             | 6,288.17                                 | 36" X 12" HDPE TEE |
| TEE-BLDG-6   | 6,286.77                | 6,283.77                      | 27.00                 | 1.770                                 | 6,288.06                             | 6,287.66                                 | 36" X 12" HDPE TEE |

**Hillpointe Apartments at Peterson**  
**100-Yr Storm Free Outfall - Main B**  
**Conduit Table - Time: 0.00 hours**

| Label      | Start Node   | Stop Node    | Diameter<br>(in) | Length (User<br>Defined)<br>(ft) | Manning's n | Flow<br>(cfs) | Velocity<br>(ft/s) | Invert (Start)<br>(ft) | Invert (Stop)<br>(ft) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) |
|------------|--------------|--------------|------------------|----------------------------------|-------------|---------------|--------------------|------------------------|-----------------------|--------------------------------------|------------------------------------------|
| Pipe-B1.1M | MH-B1.1      | FOREBAY B    | 42.0             | 96.1                             | 0.012       | 49.82         | 8.51               | 6,282.10               | 6,281.62              | 6,284.31                             | 6,283.67                                 |
| Pipe-B8M   | MH-B8        | MH-B7        | 18.0             | 152.4                            | 0.012       | 5.88          | 3.33               | 6,292.63               | 6,291.20              | 6,294.57                             | 6,294.16                                 |
| Pipe-B8I   | IN-B8        | MH-B8        | 18.0             | 32.0                             | 0.012       | 5.88          | 3.33               | 6,293.09               | 6,292.73              | 6,294.88                             | 6,294.80                                 |
| Pipe-B7M   | MH-B7        | MH-B6        | 24.0             | 167.2                            | 0.012       | 11.69         | 3.72               | 6,290.59               | 6,289.62              | 6,293.78                             | 6,293.40                                 |
| Pipe-B7I   | MH-B7        | IN-B7        | 18.0             | 32.0                             | 0.012       | 5.81          | 3.29               | 6,291.46               | 6,291.30              | 6,294.25                             | 6,294.16                                 |
| Pipe-B6M   | MH-B6        | MH-B5.2      | 24.0             | 41.2                             | 0.012       | 17.23         | 5.48               | 6,289.52               | 6,289.11              | 6,292.57                             | 6,292.37                                 |
| Pipe-B6I   | MH-B6        | IN-B6        | 18.0             | 30.1                             | 0.012       | 5.54          | 3.13               | 6,290.18               | 6,290.03              | 6,293.47                             | 6,293.40                                 |
| Pipe-B2.3I | MH-B2.3      | IN-B2.3      | 18.0             | 40.4                             | 0.012       | 1.83          | 1.04               | 6,287.90               | 6,286.23              | 6,288.61                             | 6,288.41                                 |
| Pipe-B2.3M | MH-B2.2      | MH-B2.3      | 18.0             | 263.8                            | 0.012       | 1.83          | 1.04               | 6,285.93               | 6,284.61              | 6,287.17                             | 6,287.09                                 |
| Pipe-B4M   | MH-B4        | MH-B3.2      | 24.0             | 33.4                             | 0.012       | 21.11         | 6.72               | 6,286.90               | 6,286.73              | 6,289.40                             | 6,289.15                                 |
| Pipe-B4I   | MH-B4        | IN-B4        | 18.0             | 27.4                             | 0.012       | 2.78          | 1.57               | 6,287.35               | 6,287.21              | 6,290.49                             | 6,290.47                                 |
| Pipe-B3.2M | MH-B3.2      | TEE-BLDG-5   | 36.0             | 55.2                             | 0.012       | 21.11         | 2.99               | 6,285.73               | 6,285.31              | 6,288.97                             | 6,288.92                                 |
| Pipe-B3.2I | MH-B3.1      | IN-B3.2      | 18.0             | 14.0                             | 0.012       | 4.20          | 2.38               | 6,284.76               | 6,284.69              | 6,287.64                             | 6,287.62                                 |
| Pipe-B3.1I | MH-B3.1      | IN-B3.1      | 18.0             | 32.0                             | 0.012       | 4.02          | 2.27               | 6,284.85               | 6,284.69              | 6,287.66                             | 6,287.62                                 |
| Pipe-BT5   | TEE-BLDG-5   | TEE-BLDG-5/6 | 36.0             | 121.5                            | 0.012       | 22.21         | 3.14               | 6,285.31               | 6,284.39              | 6,288.65                             | 6,288.54                                 |
| Pipe-B1.2M | MH-B2.1      | MH-B2.2      | 18.0             | 30.1                             | 0.012       | 4.12          | 2.33               | 6,284.51               | 6,284.36              | 6,287.02                             | 6,286.98                                 |
| Pipe-B2.1M | MH-B2.1      | MH-B1.1      | 36.0             | 129.0                            | 0.012       | 39.34         | 7.95               | 6,283.24               | 6,282.60              | 6,286.10                             | 6,285.74                                 |
| Pipe-B2.1I | MH-B2.2      | IN-B2.1      | 18.0             | 35.6                             | 0.012       | 2.29          | 1.30               | 6,284.89               | 6,284.71              | 6,287.11                             | 6,287.09                                 |
| Pipe-B1.2I | MH-B1.2      | IN-B1.2      | 18.0             | 14.8                             | 0.012       | 4.45          | 2.52               | 6,283.95               | 6,283.88              | 6,286.10                             | 6,286.08                                 |
| Pipe-B1.1I | MH-B1.2      | IN-B1.1      | 18.0             | 15.1                             | 0.012       | 6.03          | 3.41               | 6,283.96               | 6,283.88              | 6,286.12                             | 6,286.08                                 |
| Pipe-B1.2M | MH-B1.1      | MH-B1.2      | 24.0             | 15.0                             | 0.012       | 10.48         | 3.34               | 6,283.38               | 6,283.20              | 6,285.77                             | 6,285.74                                 |
| Pipe-B3.1M | MH-B3.1      | MH-B2.1      | 36.0             | 20.0                             | 0.013       | 35.22         | 4.98               | 6,283.44               | 6,283.34              | 6,287.04                             | 6,286.98                                 |
| Pipe-B5M   | MH-B5.2      | MH-B4        | 24.0             | 221.3                            | 0.013       | 17.23         | 5.48               | 6,289.01               | 6,287.00              | 6,291.75                             | 6,290.47                                 |
| Pipe-BT56  | TEE-BLDG-5/6 | TEE-BLDG-6   | 36.0             | 81.5                             | 0.012       | 25.90         | 3.66               | 6,284.39               | 6,283.77              | 6,288.17                             | 6,288.06                                 |
| Pipe-BT6   | TEE-BLDG-6   | MH-B3.1      | 36.0             | 29.6                             | 0.012       | 27.00         | 3.82               | 6,283.77               | 6,283.54              | 6,287.66                             | 6,287.62                                 |

Hillpointe Apartments at Peterson  
5-Yr Storm w/ Tailwater - Main A





Hillpointe Apartments at Peterson  
5-Yr Storm w/ Tailwater - Main A

Manhole Table - Time: 0.00 hours

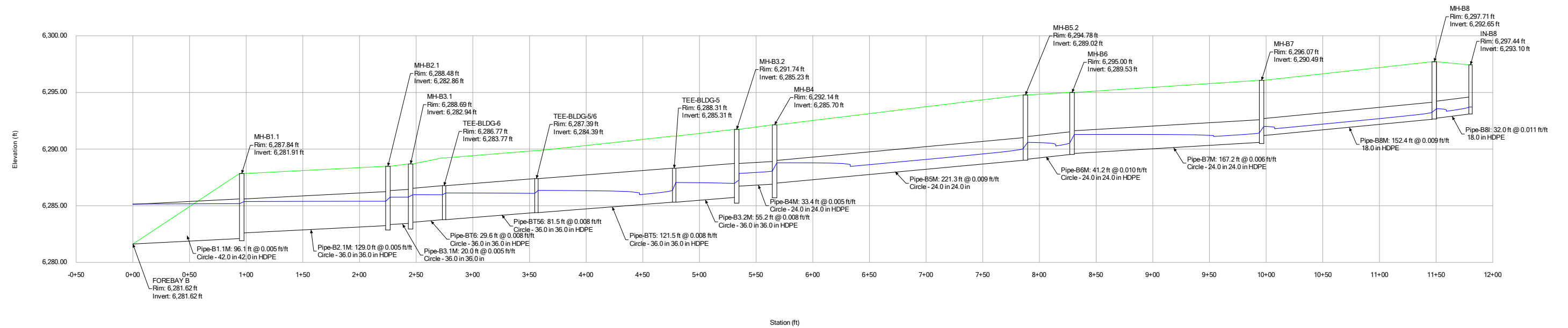
| Label      | Elevation (Rim)<br>(ft) | Elevation<br>(Invert)<br>(ft) | Flow (Known)<br>(cfs) | Headloss<br>Coefficient<br>(Standard) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) | Notes              |
|------------|-------------------------|-------------------------------|-----------------------|---------------------------------------|--------------------------------------|------------------------------------------|--------------------|
| IN-A7      | 6,296.31                | 6,292.22                      | 1.28                  | 0.000                                 | 6,292.69                             | 6,292.69                                 | 5' TYPE-R INLET    |
| MH-A7      | 6,296.30                | 6,292.10                      | 1.28                  | 1.320                                 | 6,292.70                             | 6,292.50                                 | FLAT TOP SDMH      |
| MH-A6      | 6,293.93                | 6,289.53                      | 4.37                  | 1.520                                 | 6,290.82                             | 6,290.33                                 | FLAT TOP SDMH      |
| IN-A6.2    | 6,293.70                | 6,289.80                      | 1.60                  | 0.000                                 | 6,290.83                             | 6,290.83                                 | 5' TYPE-R INLET    |
| IN-A6.1    | 6,293.66                | 6,289.80                      | 0.90                  | 0.000                                 | 6,290.82                             | 6,290.82                                 | 5' TYPE-R INLET    |
| MH-A5.2    | 6,293.09                | 6,288.62                      | 4.37                  | 1.320                                 | 6,289.71                             | 6,289.35                                 | FLAT TOP SDMH      |
| MH-A4.2    | 6,291.92                | 6,286.45                      | 8.59                  | 0.400                                 | 6,287.98                             | 6,287.93                                 | FLAT TOP SDMH      |
| IN-A5.2    | 6,291.89                | 6,288.36                      | 1.92                  | 0.000                                 | 6,289.02                             | 6,289.02                                 | 5' TYPE-R INLET    |
| MH-A4.3    | 6,291.83                | 6,286.61                      | 8.59                  | 0.400                                 | 6,288.04                             | 6,287.97                                 | FLAT TOP SDMH      |
| MH-A5.1    | 6,291.74                | 6,286.96                      | 8.59                  | 1.520                                 | 6,288.47                             | 6,287.98                                 | FLAT TOP SDMH      |
| IN-A5.1    | 6,291.60                | 6,288.39                      | 2.30                  | 0.000                                 | 6,289.14                             | 6,289.14                                 | 5' TYPE-R INLET    |
| IN-A4.1    | 6,291.15                | 6,287.11                      | 2.46                  | 0.400                                 | 6,287.91                             | 6,287.87                                 | 5' TYPE-R INLET    |
| MH-A4.1    | 6,290.97                | 6,285.33                      | 11.70                 | 0.900                                 | 6,287.40                             | 6,287.29                                 | FLAT TOP SDMH      |
| IN-A4.2    | 6,290.94                | 6,287.33                      | 0.69                  | 0.000                                 | 6,287.92                             | 6,287.92                                 | 5' TYPE-R INLET    |
| IN-A3      | 6,290.91                | 6,286.83                      | 1.01                  | 0.000                                 | 6,287.36                             | 6,287.36                                 | 5' TYPE-R INLET    |
| MH-A3      | 6,290.69                | 6,285.04                      | 12.71                 | 1.770                                 | 6,287.28                             | 6,287.03                                 | FLAT TOP SDMH      |
| MH-A2.2    | 6,290.29                | 6,284.59                      | 13.54                 | 1.320                                 | 6,286.47                             | 6,285.83                                 | FLAT TOP SDMH      |
| TEE-BLDG-4 | 6,288.76                | 6,286.26                      | 9.24                  | 1.770                                 | 6,287.95                             | 6,287.27                                 | 30" X 12" HDPE TEE |
| TEE-BLDG-8 | 6,287.50                | 6,285.00                      | 13.54                 | 1.770                                 | 6,287.03                             | 6,286.45                                 | 30" X 12" HDPE TEE |
| MH-A2.1    | 6,288.78                | 6,282.78                      | 17.43                 | 1.520                                 | 6,285.36                             | 6,285.16                                 | FLAT TOP SDMH      |
| IN-A1.1    | 6,288.70                | 6,284.87                      | 1.38                  | 0.000                                 | 6,285.43                             | 6,285.43                                 | 5' TYPE-R INLET    |
| IN-A2      | 6,288.65                | 6,284.75                      | 2.28                  | 0.000                                 | 6,285.49                             | 6,285.49                                 | 5' TYPE-R INLET    |
| MH-A1      | 6,288.59                | 6,284.19                      | 1.61                  | 1.770                                 | 6,285.37                             | 6,285.36                                 | FLAT TOP SDMH      |
| IN-A1.2    | 6,288.56                | 6,284.83                      | 0.23                  | 0.000                                 | 6,285.37                             | 6,285.37                                 | 5' TYPE-R INLET    |
| EX-MH-A0   | 6,287.56                | 6,281.94                      | 28.40                 | 0.000                                 | 6,285.18                             | 6,285.18                                 | SDMH               |
| TEE-BLDG-3 | 6,291.39                | 6,289.89                      | 1.87                  | 1.770                                 | 6,290.88                             | 6,290.81                                 | 18" X 12" HDPE TEE |

**Hillpointe Apartments at Peterson**  
**5-Yr Storm w/ Tailwater - Main A**  
**Conduit Table - Time: 0.00 hours**

| Label      | Start Node | Stop Node  | Diameter<br>(in) | Length (User<br>Defined)<br>(ft) | Manning's n | Flow<br>(cfs) | Velocity<br>(ft/s) | Invert (Start)<br>(ft) | Invert (Stop)<br>(ft) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) |
|------------|------------|------------|------------------|----------------------------------|-------------|---------------|--------------------|------------------------|-----------------------|--------------------------------------|------------------------------------------|
| Pipe-EX0   | FOREBAY A  | EX-MH-A0   | 48.0             | 85.5                             | 0.012       | 28.40         | 2.28               | 6,281.93               | 6,281.50              | 6,285.18                             | 6,285.15                                 |
| Pipe-A7I   | IN-A7      | MH-A7      | 18.0             | 25.7                             | 0.012       | 1.28          | 3.35               | 6,292.21               | 6,292.08              | 6,292.69                             | 6,292.70                                 |
| Pipe-A6M   | MH-A6      | MH-A5.2    | 18.0             | 41.2                             | 0.012       | 4.37          | 6.00               | 6,289.53               | 6,289.12              | 6,290.33                             | 6,289.77                                 |
| Pipe-A6.2I | MH-A6      | IN-A6.2    | 18.0             | 32.1                             | 0.012       | 1.60          | 0.91               | 6,289.79               | 6,289.63              | 6,290.83                             | 6,290.82                                 |
| Pipe-A6.1I | MH-A6      | IN-A6.1    | 18.0             | 32.0                             | 0.012       | 0.90          | 0.51               | 6,289.79               | 6,289.63              | 6,290.82                             | 6,290.82                                 |
| Pipe-A5.2M | MH-A5.2    | MH-A5.1    | 24.0             | 112.8                            | 0.012       | 4.37          | 5.95               | 6,288.62               | 6,287.46              | 6,289.35                             | 6,288.47                                 |
| Pipe-A4.2M | MH-A4.2    | TEE-BLDG-4 | 30.0             | 21.3                             | 0.012       | 8.59          | 6.59               | 6,286.45               | 6,286.27              | 6,287.93                             | 6,287.95                                 |
| Pipe-A4.3M | MH-A4.3    | MH-A4.2    | 30.0             | 32.2                             | 0.012       | 8.59          | 5.44               | 6,286.71               | 6,286.55              | 6,287.97                             | 6,287.98                                 |
| Pipe-A5.2I | MH-A5.1    | IN-A5.2    | 18.0             | 17.1                             | 0.012       | 1.92          | 1.09               | 6,288.35               | 6,288.26              | 6,289.02                             | 6,288.87                                 |
| Pipe-A5.1M | MH-A5.1    | MH-A4.3    | 30.0             | 29.5                             | 0.012       | 8.59          | 5.49               | 6,286.96               | 6,286.81              | 6,287.98                             | 6,288.04                                 |
| Pipe-A5.1I | MH-A5.1    | IN-A5.1    | 18.0             | 24.3                             | 0.012       | 2.30          | 1.30               | 6,288.38               | 6,288.26              | 6,289.14                             | 6,288.95                                 |
| Pipe-A4.1I | MH-A4.1    | IN-A4.1    | 18.0             | 21.1                             | 0.012       | 2.46          | 1.39               | 6,287.10               | 6,286.99              | 6,287.87                             | 6,287.69                                 |
| Pipe-A4.2I | IN-A4.1    | IN-A4.2    | 18.0             | 22.6                             | 0.012       | 0.69          | 0.39               | 6,287.31               | 6,287.20              | 6,287.92                             | 6,287.91                                 |
| Pipe-A4.1M | MH-A4.1    | MH-A3      | 30.0             | 37.5                             | 0.012       | 11.70         | 5.96               | 6,285.33               | 6,285.14              | 6,287.29                             | 6,287.28                                 |
| Pipe-AT4   | TEE-BLDG-4 | MH-A4.1    | 30.0             | 110.4                            | 0.012       | 9.24          | 6.72               | 6,286.26               | 6,285.33              | 6,287.27                             | 6,287.40                                 |
| Pipe-A3I   | MH-A3      | IN-A3      | 18.0             | 42.7                             | 0.012       | 1.01          | 0.57               | 6,286.81               | 6,286.60              | 6,287.36                             | 6,287.28                                 |
| Pipe-A3M   | MH-A3      | TEE-BLDG-8 | 30.0             | 7.8                              | 0.012       | 12.71         | 6.11               | 6,285.04               | 6,285.00              | 6,287.03                             | 6,287.03                                 |
| Pipe-A2.2M | MH-A2.2    | MH-A2.1    | 30.0             | 262.8                            | 0.012       | 13.54         | 6.16               | 6,284.59               | 6,283.28              | 6,285.83                             | 6,285.36                                 |
| Pipe-AT8   | TEE-BLDG-8 | MH-A2.2    | 30.0             | 62.1                             | 0.012       | 13.54         | 6.16               | 6,285.00               | 6,284.69              | 6,286.45                             | 6,286.47                                 |
| Pipe-A1M   | MH-A2.1    | MH-A1      | 24.0             | 27.3                             | 0.012       | 1.61          | 0.51               | 6,283.98               | 6,283.78              | 6,285.36                             | 6,285.36                                 |
| Pipe-A2.1M | MH-A2.1    | EX-MH-A0   | 36.0             | 30.0                             | 0.012       | 17.43         | 11.28              | 6,282.78               | 6,282.10              | 6,285.16                             | 6,285.18                                 |
| Pipe-A2I   | MH-A2.1    | IN-A2      | 18.0             | 39.0                             | 0.012       | 2.28          | 1.29               | 6,284.67               | 6,284.28              | 6,285.49                             | 6,285.36                                 |
| Pipe-A1.1I | MH-A1      | IN-A1.1    | 18.0             | 35.7                             | 0.012       | 1.38          | 0.78               | 6,284.75               | 6,284.48              | 6,285.43                             | 6,285.37                                 |
| Pipe-A1.2I | MH-A1      | IN-A1.2    | 18.0             | 28.5                             | 0.012       | 0.23          | 0.13               | 6,284.69               | 6,284.48              | 6,285.37                             | 6,285.37                                 |
| Pipe-AT3   | TEE-BLDG-3 | MH-A6      | 18.0             | 13.0                             | 0.012       | 1.87          | 6.08               | 6,289.89               | 6,289.63              | 6,290.81                             | 6,290.82                                 |
| Pipe-A7M   | MH-A7      | TEE-BLDG-3 | 18.0             | 109.7                            | 0.012       | 1.28          | 5.44               | 6,292.08               | 6,289.89              | 6,292.50                             | 6,290.88                                 |



Hillpointe Apartments at Peterson  
5-Yr Storm w/ Tailwater - Main B



Hillpointe Apartments at Peterson  
5-Yr Storm w/ Tailwater - Main B

Manhole Table - Time: 0.00 hours

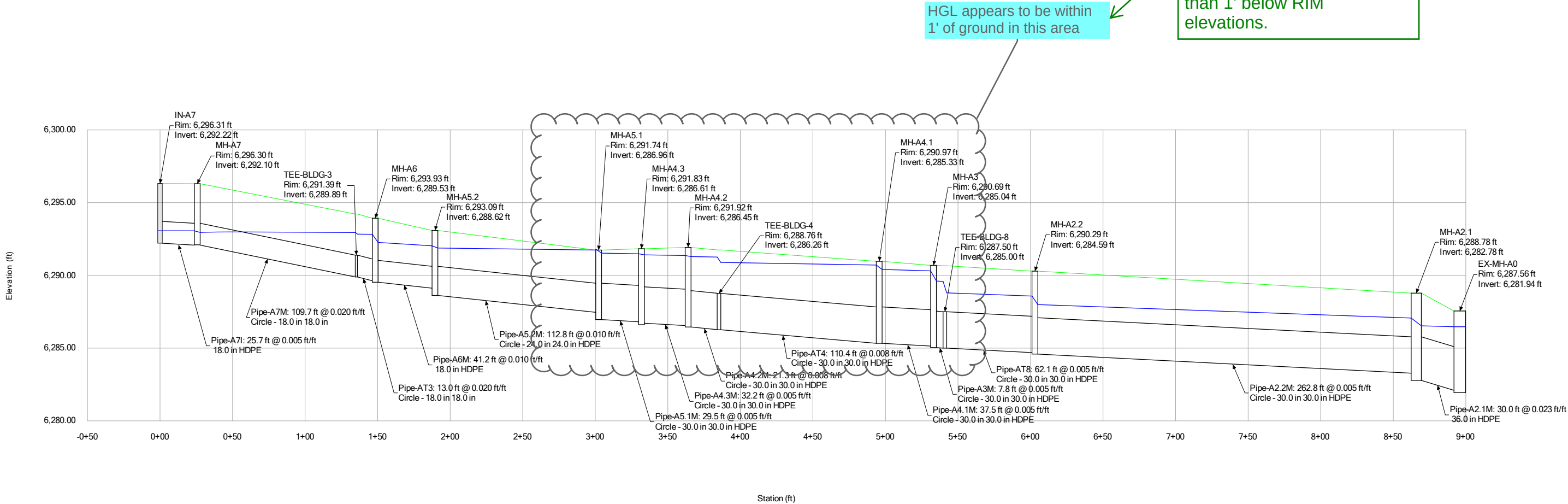
| Label        | Elevation (Rim)<br>(ft) | Elevation<br>(Invert)<br>(ft) | Flow (Known)<br>(cfs) | Headloss<br>Coefficient<br>(Standard) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) | Notes              |
|--------------|-------------------------|-------------------------------|-----------------------|---------------------------------------|--------------------------------------|------------------------------------------|--------------------|
| MH-B8        | 6,297.71                | 6,292.65                      | 2.70                  | 1.320                                 | 6,293.56                             | 6,293.25                                 | SDMH               |
| IN-B8        | 6,297.44                | 6,293.10                      | 2.70                  | 0.000                                 | 6,293.71                             | 6,293.71                                 | 5' TYPE-R INLET    |
| MH-B7        | 6,296.07                | 6,290.49                      | 5.74                  | 1.770                                 | 6,292.00                             | 6,291.44                                 | SDMH               |
| IN-B7        | 6,295.80                | 6,290.31                      | 3.04                  | 0.000                                 | 6,292.35                             | 6,292.35                                 | 5' TYPE-R INLET    |
| MH-B6        | 6,295.00                | 6,289.53                      | 8.50                  | 1.770                                 | 6,291.29                             | 6,290.56                                 | SDMH               |
| MH-B5.2      | 6,294.78                | 6,289.02                      | 8.50                  | 1.320                                 | 6,290.59                             | 6,290.05                                 | SDMH               |
| IN-B6        | 6,294.74                | 6,289.76                      | 2.76                  | 0.000                                 | 6,291.32                             | 6,291.32                                 | 5' TYPE-R INLET    |
| IN-B2.3      | 6,292.94                | 6,287.90                      | 0.96                  | 0.000                                 | 6,288.41                             | 6,288.41                                 | 5' TYPE-R INLET    |
| MH-B2.3      | 6,292.25                | 6,285.93                      | 0.96                  | 1.320                                 | 6,286.52                             | 6,286.51                                 | SDMH               |
| MH-B4        | 6,292.14                | 6,285.70                      | 10.47                 | 1.520                                 | 6,288.79                             | 6,288.06                                 | SDMH               |
| IN-B4        | 6,292.10                | 6,287.35                      | 1.38                  | 0.000                                 | 6,288.79                             | 6,288.79                                 | 5' TYPE-R INLET    |
| MH-B3.2      | 6,291.74                | 6,285.23                      | 10.47                 | 1.320                                 | 6,287.27                             | 6,286.97                                 | SDMH               |
| IN-B3.2      | 6,288.62                | 6,284.40                      | 2.15                  | 0.000                                 | 6,285.98                             | 6,285.98                                 | 5' TYPE-R INLET    |
| MH-B3.1      | 6,288.69                | 6,282.94                      | 17.55                 | 1.520                                 | 6,285.97                             | 6,285.76                                 | FLAT TOP SDMH      |
| IN-B3.1      | 6,288.75                | 6,284.85                      | 2.09                  | 0.000                                 | 6,285.99                             | 6,285.99                                 | 5' TYPE-R INLET    |
| TEE-BLDG-5   | 6,288.31                | 6,285.31                      | 11.06                 | 1.770                                 | 6,287.05                             | 6,286.36                                 | 36" X 12" HDPE TEE |
| MH-B2.1      | 6,288.48                | 6,282.86                      | 19.70                 | 1.770                                 | 6,285.75                             | 6,285.39                                 | FLAT TOP SDMH      |
| MH-B2.2      | 6,288.62                | 6,284.51                      | 2.15                  | 0.900                                 | 6,285.79                             | 6,285.77                                 | FLAT TOP SDMH      |
| IN-B2.1      | 6,287.99                | 6,284.89                      | 1.19                  | 0.000                                 | 6,285.80                             | 6,285.80                                 | 5' TYPE-R INLET    |
| IN-B1.2      | 6,287.88                | 6,283.58                      | 2.27                  | 0.000                                 | 6,285.46                             | 6,285.46                                 | 5' TYPE-R INLET    |
| IN-B1.1      | 6,287.87                | 6,283.58                      | 3.13                  | 0.000                                 | 6,285.47                             | 6,285.47                                 | 5' TYPE-R INLET    |
| MH-B1.1      | 6,287.84                | 6,281.91                      | 25.10                 | 1.520                                 | 6,285.37                             | 6,285.18                                 | FLAT TOP SDMH      |
| MH-B1.2      | 6,287.78                | 6,283.79                      | 5.40                  | 1.770                                 | 6,285.46                             | 6,285.37                                 | FLAT TOP SDMH      |
| TEE-BLDG-5/6 | 6,287.39                | 6,284.39                      | 12.72                 | 1.770                                 | 6,286.35                             | 6,286.09                                 | 36" X 12" HDPE TEE |
| TEE-BLDG-6   | 6,286.77                | 6,283.77                      | 13.31                 | 1.770                                 | 6,286.12                             | 6,285.97                                 | 36" X 12" HDPE TEE |

**Hillpointe Apartments at Peterson**  
**5-Yr Storm w/ Tailwater - Main B**  
**Conduit Table - Time: 0.00 hours**

| Label      | Start Node   | Stop Node    | Diameter<br>(in) | Length (User<br>Defined)<br>(ft) | Manning's n | Flow<br>(cfs) | Velocity<br>(ft/s) | Invert (Start)<br>(ft) | Invert (Stop)<br>(ft) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) |
|------------|--------------|--------------|------------------|----------------------------------|-------------|---------------|--------------------|------------------------|-----------------------|--------------------------------------|------------------------------------------|
| Pipe-B1.1M | MH-B1.1      | FOREBAY B    | 42.0             | 96.1                             | 0.012       | 25.10         | 7.16               | 6,282.10               | 6,281.62              | 6,285.18                             | 6,285.15                                 |
| Pipe-B8M   | MH-B8        | MH-B7        | 18.0             | 152.4                            | 0.012       | 2.70          | 5.16               | 6,292.63               | 6,291.20              | 6,293.25                             | 6,292.00                                 |
| Pipe-B8I   | IN-B8        | MH-B8        | 18.0             | 32.0                             | 0.012       | 2.70          | 5.50               | 6,293.09               | 6,292.73              | 6,293.71                             | 6,293.56                                 |
| Pipe-B7M   | MH-B7        | MH-B6        | 24.0             | 167.2                            | 0.012       | 5.74          | 5.23               | 6,290.59               | 6,289.62              | 6,291.44                             | 6,291.29                                 |
| Pipe-B7I   | MH-B7        | IN-B7        | 18.0             | 32.0                             | 0.012       | 3.04          | 1.72               | 6,291.46               | 6,291.30              | 6,292.35                             | 6,292.13                                 |
| Pipe-B6M   | MH-B6        | MH-B5.2      | 24.0             | 41.2                             | 0.012       | 8.50          | 7.08               | 6,289.52               | 6,289.11              | 6,290.56                             | 6,290.59                                 |
| Pipe-B6I   | MH-B6        | IN-B6        | 18.0             | 30.1                             | 0.012       | 2.76          | 1.56               | 6,290.18               | 6,290.03              | 6,291.32                             | 6,291.29                                 |
| Pipe-B2.3I | MH-B2.3      | IN-B2.3      | 18.0             | 40.4                             | 0.012       | 0.96          | 0.54               | 6,287.90               | 6,286.23              | 6,288.41                             | 6,288.27                                 |
| Pipe-B2.3M | MH-B2.2      | MH-B2.3      | 18.0             | 263.8                            | 0.012       | 0.96          | 0.54               | 6,285.93               | 6,284.61              | 6,286.51                             | 6,286.30                                 |
| Pipe-B4M   | MH-B4        | MH-B3.2      | 24.0             | 33.4                             | 0.012       | 10.47         | 5.81               | 6,286.90               | 6,286.73              | 6,288.06                             | 6,287.85                                 |
| Pipe-B4I   | MH-B4        | IN-B4        | 18.0             | 27.4                             | 0.012       | 1.38          | 0.78               | 6,287.35               | 6,287.21              | 6,288.79                             | 6,288.79                                 |
| Pipe-B3.2M | MH-B3.2      | TEE-BLDG-5   | 36.0             | 55.2                             | 0.012       | 10.47         | 6.60               | 6,285.73               | 6,285.31              | 6,286.97                             | 6,287.05                                 |
| Pipe-B3.2I | MH-B3.1      | IN-B3.2      | 18.0             | 14.0                             | 0.012       | 2.15          | 1.22               | 6,284.76               | 6,284.69              | 6,285.98                             | 6,285.97                                 |
| Pipe-B3.1I | MH-B3.1      | IN-B3.1      | 18.0             | 32.0                             | 0.012       | 2.09          | 1.18               | 6,284.85               | 6,284.69              | 6,285.99                             | 6,285.97                                 |
| Pipe-BT5   | TEE-BLDG-5   | TEE-BLDG-5/6 | 36.0             | 121.5                            | 0.012       | 11.06         | 6.69               | 6,285.31               | 6,284.39              | 6,286.36                             | 6,286.35                                 |
| Pipe-B1.2M | MH-B2.1      | MH-B2.2      | 18.0             | 30.1                             | 0.012       | 2.15          | 1.22               | 6,284.51               | 6,284.36              | 6,285.77                             | 6,285.75                                 |
| Pipe-B2.1M | MH-B2.1      | MH-B1.1      | 36.0             | 129.0                            | 0.012       | 19.70         | 6.74               | 6,283.24               | 6,282.60              | 6,285.39                             | 6,285.37                                 |
| Pipe-B2.1I | MH-B2.2      | IN-B2.1      | 18.0             | 35.6                             | 0.012       | 1.19          | 0.67               | 6,284.89               | 6,284.71              | 6,285.80                             | 6,285.79                                 |
| Pipe-B1.2I | MH-B1.2      | IN-B1.2      | 18.0             | 14.8                             | 0.012       | 2.27          | 1.28               | 6,283.95               | 6,283.88              | 6,285.46                             | 6,285.46                                 |
| Pipe-B1.1I | MH-B1.2      | IN-B1.1      | 18.0             | 15.1                             | 0.012       | 3.13          | 1.77               | 6,283.96               | 6,283.88              | 6,285.47                             | 6,285.46                                 |
| Pipe-B1.2M | MH-B1.1      | MH-B1.2      | 24.0             | 15.0                             | 0.012       | 5.40          | 1.72               | 6,283.38               | 6,283.20              | 6,285.37                             | 6,285.37                                 |
| Pipe-B3.1M | MH-B3.1      | MH-B2.1      | 36.0             | 20.0                             | 0.013       | 17.55         | 6.18               | 6,283.44               | 6,283.34              | 6,285.76                             | 6,285.75                                 |
| Pipe-B5M   | MH-B5.2      | MH-B4        | 24.0             | 221.3                            | 0.013       | 8.50          | 6.46               | 6,289.01               | 6,287.00              | 6,290.05                             | 6,288.79                                 |
| Pipe-BT56  | TEE-BLDG-5/6 | TEE-BLDG-6   | 36.0             | 81.5                             | 0.012       | 12.72         | 6.98               | 6,284.39               | 6,283.77              | 6,286.09                             | 6,286.12                                 |
| Pipe-BT6   | TEE-BLDG-6   | MH-B3.1      | 36.0             | 29.6                             | 0.012       | 13.31         | 7.13               | 6,283.77               | 6,283.54              | 6,285.97                             | 6,285.97                                 |

Hillpointe Apartments at Peterson  
100-Yr Storm w/ Tailwater - Main A

HRG Response:  
Revised pipe sizing and calcs. All HGLs now more than 1' below RIM elevations.



Hillpointe Apartments at Peterson  
100-Yr Storm w/ Tailwater - Main A

Manhole Table - Time: 0.00 hours

| Label      | Elevation (Rim)<br>(ft) | Elevation<br>(Invert)<br>(ft) | Flow (Known)<br>(cfs) | Headloss<br>Coefficient<br>(Standard) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) | Notes              |
|------------|-------------------------|-------------------------------|-----------------------|---------------------------------------|--------------------------------------|------------------------------------------|--------------------|
| IN-A7      | 6,296.31                | 6,292.22                      | 2.49                  | 0.000                                 | 6,293.06                             | 6,293.06                                 | 5' TYPE-R INLET    |
| MH-A7      | 6,296.30                | 6,292.10                      | 2.49                  | 1.320                                 | 6,293.06                             | 6,292.95                                 | FLAT TOP SDMH      |
| MH-A6      | 6,293.93                | 6,289.53                      | 8.58                  | 1.520                                 | 6,292.82                             | 6,292.27                                 | FLAT TOP SDMH      |
| IN-A6.2    | 6,293.70                | 6,289.80                      | 3.06                  | 0.000                                 | 6,292.85                             | 6,292.85                                 | 5' TYPE-R INLET    |
| IN-A6.1    | 6,293.66                | 6,289.80                      | 1.93                  | 0.000                                 | 6,292.83                             | 6,292.83                                 | 5' TYPE-R INLET    |
| MH-A5.2    | 6,293.09                | 6,288.62                      | 8.58                  | 1.320                                 | 6,292.03                             | 6,291.88                                 | FLAT TOP SDMH      |
| MH-A4.2    | 6,291.92                | 6,286.45                      | 16.82                 | 0.400                                 | 6,291.36                             | 6,291.29                                 | FLAT TOP SDMH      |
| IN-A5.2    | 6,291.89                | 6,288.36                      | 4.51                  | 0.000                                 | 6,291.77                             | 6,291.77                                 | 5' TYPE-R INLET    |
| MH-A4.3    | 6,291.83                | 6,286.61                      | 16.82                 | 0.400                                 | 6,291.48                             | 6,291.41                                 | FLAT TOP SDMH      |
| MH-A5.1    | 6,291.74                | 6,286.96                      | 16.82                 | 1.520                                 | 6,291.80                             | 6,291.53                                 | FLAT TOP SDMH      |
| IN-A5.1    | 6,291.60                | 6,288.39                      | 3.73                  | 0.000                                 | 6,291.60                             | 6,291.60                                 | 5' TYPE-R INLET    |
| IN-A4.1    | 6,291.15                | 6,287.11                      | 4.74                  | 0.400                                 | 6,290.79                             | 6,290.75                                 | 5' TYPE-R INLET    |
| MH-A4.1    | 6,290.97                | 6,285.33                      | 22.77                 | 0.900                                 | 6,290.71                             | 6,290.41                                 | FLAT TOP SDMH      |
| IN-A4.2    | 6,290.94                | 6,287.33                      | 1.30                  | 0.000                                 | 6,290.79                             | 6,290.79                                 | 5' TYPE-R INLET    |
| IN-A3      | 6,290.91                | 6,286.83                      | 1.98                  | 0.000                                 | 6,290.32                             | 6,290.32                                 | 5' TYPE-R INLET    |
| MH-A3      | 6,290.69                | 6,285.04                      | 24.75                 | 1.770                                 | 6,290.31                             | 6,289.61                                 | FLAT TOP SDMH      |
| MH-A2.2    | 6,290.29                | 6,284.59                      | 26.30                 | 1.320                                 | 6,288.58                             | 6,287.99                                 | FLAT TOP SDMH      |
| TEE-BLDG-4 | 6,288.76                | 6,286.26                      | 18.03                 | 1.770                                 | 6,291.26                             | 6,290.89                                 | 30" X 12" HDPE TEE |
| TEE-BLDG-8 | 6,287.50                | 6,285.00                      | 26.30                 | 1.770                                 | 6,289.59                             | 6,288.80                                 | 30" X 12" HDPE TEE |
| MH-A2.1    | 6,288.78                | 6,282.78                      | 33.59                 | 1.520                                 | 6,287.07                             | 6,286.54                                 | FLAT TOP SDMH      |
| IN-A1.1    | 6,288.70                | 6,284.87                      | 2.50                  | 0.000                                 | 6,287.11                             | 6,287.11                                 | 5' TYPE-R INLET    |
| IN-A2      | 6,288.65                | 6,284.75                      | 4.34                  | 0.000                                 | 6,287.13                             | 6,287.13                                 | 5' TYPE-R INLET    |
| MH-A1      | 6,288.59                | 6,284.19                      | 2.95                  | 1.770                                 | 6,287.10                             | 6,287.07                                 | FLAT TOP SDMH      |
| IN-A1.2    | 6,288.56                | 6,284.83                      | 0.45                  | 0.000                                 | 6,287.10                             | 6,287.10                                 | 5' TYPE-R INLET    |
| EX-MH-A0   | 6,287.56                | 6,281.94                      | 90.20                 | 0.000                                 | 6,286.47                             | 6,286.47                                 | SDMH               |
| TEE-BLDG-3 | 6,291.39                | 6,289.89                      | 3.59                  | 1.770                                 | 6,292.95                             | 6,292.83                                 | 18" X 12" HDPE TEE |

Hillpointe Apartments at Peterson  
100-Yr Storm w/ Tailwater - Main A  
Conduit Table - Time: 0.00 hours

| Label      | Start Node | Stop Node  | Diameter (in) | Length (User Defined) (ft) | Manning's n | Flow (cfs) | Velocity (ft/s) | Invert (Start) (ft) | Invert (Stop) (ft) | Hydraulic Grade Line (In) (ft) | Hydraulic Grade Line (Out) (ft) |
|------------|------------|------------|---------------|----------------------------|-------------|------------|-----------------|---------------------|--------------------|--------------------------------|---------------------------------|
| Pipe-EX0   | FOREBAY A  | EX-MH-A0   | 48.0          | 85.5                       | 0.012       | 90.20      | 7.25            | 6,281.93            | 6,281.50           | 6,286.47                       | 6,286.16                        |
| Pipe-A7I   | IN-A7      | MH-A7      | 18.0          | 25.7                       | 0.012       | 2.49       | 4.04            | 6,292.21            | 6,292.08           | 6,293.06                       | 6,293.06                        |
| Pipe-A6M   | MH-A6      | MH-A5.2    | 18.0          | 41.2                       | 0.012       | 8.58       | 4.86            | 6,289.53            | 6,289.12           | 6,292.27                       | 6,292.03                        |
| Pipe-A6.2I | MH-A6      | IN-A6.2    | 18.0          | 32.1                       | 0.012       | 3.06       | 1.73            | 6,289.79            | 6,289.63           | 6,292.85                       | 6,292.82                        |
| Pipe-A6.1I | MH-A6      | IN-A6.1    | 18.0          | 32.0                       | 0.012       | 1.93       | 1.09            | 6,289.79            | 6,289.63           | 6,292.83                       | 6,292.82                        |
| Pipe-A5.2M | MH-A5.2    | MH-A5.1    | 24.0          | 112.8                      | 0.012       | 8.58       | 2.73            | 6,288.62            | 6,287.46           | 6,291.88                       | 6,291.74                        |
| Pipe-A4.2M | MH-A4.2    | TEE-BLDG-4 | 30.0          | 21.3                       | 0.012       | 16.82      | 3.43            | 6,286.45            | 6,286.27           | 6,291.29                       | 6,291.26                        |
| Pipe-A4.3M | MH-A4.3    | MH-A4.2    | 30.0          | 32.2                       | 0.012       | 16.82      | 3.43            | 6,286.71            | 6,286.55           | 6,291.41                       | 6,291.36                        |
| Pipe-A5.2I | MH-A5.1    | IN-A5.2    | 18.0          | 17.1                       | 0.012       | 4.51       | 2.55            | 6,288.35            | 6,288.26           | 6,291.77                       | 6,291.74                        |
| Pipe-A5.1M | MH-A5.1    | MH-A4.3    | 30.0          | 29.5                       | 0.012       | 16.82      | 3.43            | 6,286.96            | 6,286.81           | 6,291.53                       | 6,291.48                        |
| Pipe-A5.1I | MH-A5.1    | IN-A5.1    | 18.0          | 24.3                       | 0.012       | 3.73       | 2.11            | 6,288.38            | 6,288.26           | 6,291.77                       | 6,291.74                        |
| Pipe-A4.1I | MH-A4.1    | IN-A4.1    | 18.0          | 21.1                       | 0.012       | 4.74       | 2.68            | 6,287.10            | 6,286.99           | 6,290.75                       | 6,290.71                        |
| Pipe-A4.2I | IN-A4.1    | IN-A4.2    | 18.0          | 22.6                       | 0.012       | 1.30       | 0.74            | 6,287.31            | 6,287.20           | 6,290.79                       | 6,290.79                        |
| Pipe-A4.1M | MH-A4.1    | MH-A3      | 30.0          | 37.5                       | 0.012       | 22.77      | 4.64            | 6,285.33            | 6,285.14           | 6,290.41                       | 6,290.31                        |
| Pipe-AT4   | TEE-BLDG-4 | MH-A4.1    | 30.0          | 110.4                      | 0.012       | 18.03      | 3.67            | 6,286.26            | 6,285.33           | 6,290.89                       | 6,290.71                        |
| Pipe-A3I   | MH-A3      | IN-A3      | 18.0          | 42.7                       | 0.012       | 1.98       | 1.12            | 6,286.81            | 6,286.60           | 6,290.32                       | 6,290.31                        |
| Pipe-A3M   | MH-A3      | TEE-BLDG-8 | 30.0          | 7.8                        | 0.012       | 24.75      | 5.04            | 6,285.04            | 6,285.00           | 6,289.61                       | 6,289.59                        |
| Pipe-A2.2M | MH-A2.2    | MH-A2.1    | 30.0          | 262.8                      | 0.012       | 26.30      | 5.36            | 6,284.59            | 6,283.28           | 6,287.99                       | 6,287.07                        |
| Pipe-AT8   | TEE-BLDG-8 | MH-A2.2    | 30.0          | 62.1                       | 0.012       | 26.30      | 5.36            | 6,285.00            | 6,284.69           | 6,288.80                       | 6,288.58                        |
| Pipe-A1M   | MH-A2.1    | MH-A1      | 24.0          | 27.3                       | 0.012       | 2.95       | 0.94            | 6,283.98            | 6,283.78           | 6,287.07                       | 6,287.07                        |
| Pipe-A2.1M | MH-A2.1    | EX-MH-A0   | 36.0          | 30.0                       | 0.012       | 33.59      | 4.75            | 6,282.78            | 6,282.10           | 6,286.54                       | 6,286.47                        |
| Pipe-A2I   | MH-A2.1    | IN-A2      | 18.0          | 39.0                       | 0.012       | 4.34       | 2.46            | 6,284.67            | 6,284.28           | 6,287.13                       | 6,287.07                        |
| Pipe-A1.1I | MH-A1      | IN-A1.1    | 18.0          | 35.7                       | 0.012       | 2.50       | 1.41            | 6,284.75            | 6,284.48           | 6,287.11                       | 6,287.10                        |
| Pipe-A1.2I | MH-A1      | IN-A1.2    | 18.0          | 28.5                       | 0.012       | 0.45       | 0.25            | 6,284.69            | 6,284.48           | 6,287.10                       | 6,287.10                        |
| Pipe-AT3   | TEE-BLDG-3 | MH-A6      | 18.0          | 13.0                       | 0.012       | 3.59       | 2.03            | 6,289.89            | 6,289.63           | 6,292.83                       | 6,292.82                        |
| Pipe-A7M   | MH-A7      | TEE-BLDG-3 | 18.0          | 109.7                      | 0.012       | 2.49       | 6.61            | 6,292.08            | 6,289.89           | 6,292.95                       | 6,292.95                        |

HRG Response:  
Pipe slopes now included  
in conduit tables.

Provide slope for pipes

It appears highlighted pipes may have been put in backwards. Such as inverts for inlets (high/start end) match with MH inverts on CD's (Low/stop end)

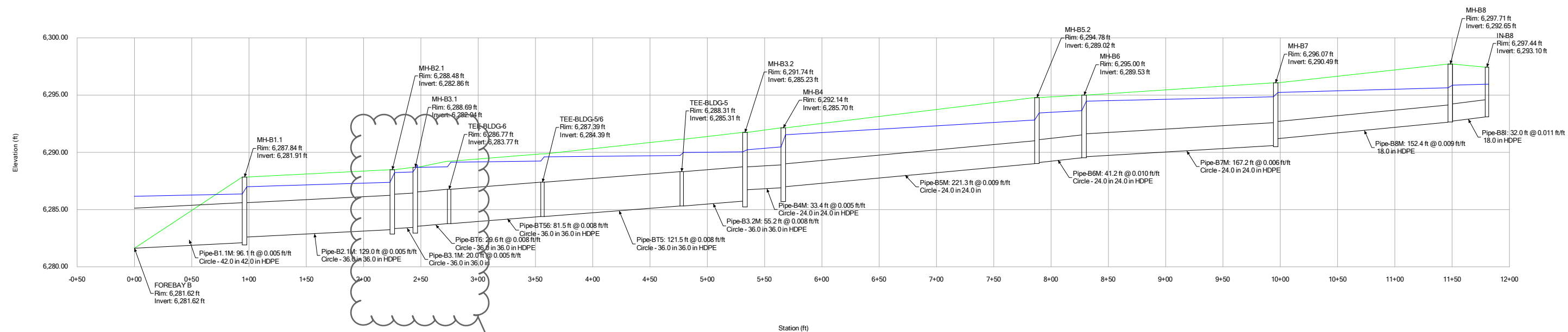
HRG Response:  
Pipe directions fixed.

See CDs for lengths that do not match with design

HRG Response:  
Pipe lengths checked for match with CDs.



Hillpointe Apartments at Peterson  
100-Yr Storm w/ Tailwater - Main B



Hillpointe Apartments at Peterson  
100-Yr Storm w/ Tailwater - Main B

Manhole Table - Time: 0.00 hours

| Label        | Elevation (Rim)<br>(ft) | Elevation<br>(Invert)<br>(ft) | Flow (Known)<br>(cfs) | Headloss<br>Coefficient<br>(Standard) | Hydraulic<br>Grade Line (In)<br>(ft) | Hydraulic<br>Grade Line<br>(Out)<br>(ft) | Notes              |
|--------------|-------------------------|-------------------------------|-----------------------|---------------------------------------|--------------------------------------|------------------------------------------|--------------------|
| MH-B8        | 6,297.71                | 6,292.65                      | 5.88                  | 1.320                                 | 6,295.87                             | 6,295.64                                 | SDMH               |
| IN-B8        | 6,297.44                | 6,293.10                      | 5.88                  | 0.000                                 | 6,295.95                             | 6,295.95                                 | 5' TYPE-R INLET    |
| MH-B7        | 6,296.07                | 6,290.49                      | 11.69                 | 1.770                                 | 6,295.23                             | 6,294.85                                 | SDMH               |
| IN-B7        | 6,295.80                | 6,290.31                      | 5.81                  | 0.000                                 | 6,295.31                             | 6,295.31                                 | 5' TYPE-R INLET    |
| MH-B6        | 6,295.00                | 6,289.53                      | 17.23                 | 1.770                                 | 6,294.47                             | 6,293.64                                 | SDMH               |
| MH-B5.2      | 6,294.78                | 6,289.02                      | 17.23                 | 1.320                                 | 6,293.44                             | 6,292.82                                 | SDMH               |
| IN-B6        | 6,294.74                | 6,289.76                      | 5.54                  | 0.000                                 | 6,294.54                             | 6,294.54                                 | 5' TYPE-R INLET    |
| IN-B2.3      | 6,292.94                | 6,287.90                      | 1.83                  | 0.000                                 | 6,288.61                             | 6,288.61                                 | 5' TYPE-R INLET    |
| MH-B2.3      | 6,292.25                | 6,285.93                      | 1.83                  | 1.320                                 | 6,288.43                             | 6,288.41                                 | SDMH               |
| MH-B4        | 6,292.14                | 6,285.70                      | 21.11                 | 1.520                                 | 6,291.54                             | 6,290.47                                 | SDMH               |
| IN-B4        | 6,292.10                | 6,287.35                      | 2.78                  | 0.000                                 | 6,291.55                             | 6,291.55                                 | 5' TYPE-R INLET    |
| MH-B3.2      | 6,291.74                | 6,285.23                      | 21.11                 | 1.320                                 | 6,290.22                             | 6,290.04                                 | SDMH               |
| IN-B3.2      | 6,288.62                | 6,284.40                      | 4.20                  | 0.000                                 | 6,288.62                             | 6,288.62                                 | 5' TYPE-R INLET    |
| MH-B3.1      | 6,288.69                | 6,282.94                      | 35.22                 | 1.520                                 | 6,288.87                             | 6,288.28                                 | FLAT TOP SDMH      |
| IN-B3.1      | 6,288.75                | 6,284.85                      | 4.02                  | 0.000                                 | 6,288.73                             | 6,288.73                                 | 5' TYPE-R INLET    |
| TEE-BLDG-5   | 6,288.31                | 6,285.31                      | 22.21                 | 1.770                                 | 6,289.99                             | 6,289.72                                 | 36" X 12" HDPE TEE |
| MH-B2.1      | 6,288.48                | 6,282.86                      | 39.34                 | 1.770                                 | 6,288.23                             | 6,287.38                                 | FLAT TOP SDMH      |
| MH-B2.2      | 6,288.62                | 6,284.51                      | 4.12                  | 0.900                                 | 6,288.34                             | 6,288.27                                 | FLAT TOP SDMH      |
| IN-B2.1      | 6,287.99                | 6,284.89                      | 2.29                  | 0.000                                 | 6,287.99                             | 6,287.99                                 | 5' TYPE-R INLET    |
| IN-B1.2      | 6,287.88                | 6,283.58                      | 4.45                  | 0.000                                 | 6,287.35                             | 6,287.35                                 | 5' TYPE-R INLET    |
| IN-B1.1      | 6,287.87                | 6,283.58                      | 6.03                  | 0.000                                 | 6,287.37                             | 6,287.37                                 | 5' TYPE-R INLET    |
| MH-B1.1      | 6,287.84                | 6,281.91                      | 49.82                 | 1.520                                 | 6,286.99                             | 6,286.36                                 | FLAT TOP SDMH      |
| MH-B1.2      | 6,287.78                | 6,283.79                      | 10.48                 | 1.770                                 | 6,287.33                             | 6,287.02                                 | FLAT TOP SDMH      |
| TEE-BLDG-5/6 | 6,287.39                | 6,284.39                      | 25.90                 | 1.770                                 | 6,289.61                             | 6,289.24                                 | 36" X 12" HDPE TEE |
| TEE-BLDG-6   | 6,286.77                | 6,283.77                      | 27.00                 | 1.770                                 | 6,289.13                             | 6,288.73                                 | 36" X 12" HDPE TEE |



Hillpointe Apartments at Peterson  
100-Yr Storm w/ Tailwater - Main B

Conduit Table - Time: 0.00 hours

| Label      | Start Node   | Stop Node    | Diameter (in) | Length (User Defined) (ft) | Manning's n | Flow (cfs) | Velocity (ft/s) | Invert (Start) (ft) | Invert (Stop) (ft) | Hydraulic Grade Line (In) (ft) | Hydraulic Grade Line (Out) (ft) |
|------------|--------------|--------------|---------------|----------------------------|-------------|------------|-----------------|---------------------|--------------------|--------------------------------|---------------------------------|
| Pipe-B1.1M | MH-B1.1      | FOREBAY B    | 42.0          | 96.1                       | 0.012       | 49.82      | 5.18            | 6,282.10            | 6,281.62           | 6,286.36                       | 6,286.16                        |
| Pipe-B8M   | MH-B8        | MH-B7        | 18.0          | 152.4                      | 0.012       | 5.88       | 3.33            | 6,292.63            | 6,291.20           | 6,295.64                       | 6,295.23                        |
| Pipe-B8I   | IN-B8        | MH-B8        | 18.0          | 32.0                       | 0.012       | 5.88       | 3.33            | 6,293.09            | 6,292.73           | 6,295.95                       | 6,295.87                        |
| Pipe-B7M   | MH-B7        | MH-B6        | 24.0          | 167.2                      | 0.012       | 11.69      | 3.72            | 6,290.59            | 6,289.62           | 6,294.85                       | 6,294.47                        |
| Pipe-B7I   | MH-B7        | IN-B7        | 18.0          | 32.0                       | 0.012       | 5.81       | 3.29            | 6,291.46            | 6,291.30           | 6,295.31                       | 6,295.23                        |
| Pipe-B6M   | MH-B6        | MH-B5.2      | 24.0          | 41.2                       | 0.012       | 17.23      | 5.48            | 6,289.52            | 6,289.11           | 6,293.64                       | 6,293.44                        |
| Pipe-B6I   | MH-B6        | IN-B6        | 18.0          | 30.1                       | 0.012       | 5.54       | 3.13            | 6,290.18            | 6,290.03           | 6,294.54                       | 6,294.47                        |
| Pipe-B2.3I | MH-B2.3      | IN-B2.3      | 18.0          | 40.4                       | 0.012       | 1.83       | 1.04            | 6,287.90            | 6,286.23           | 6,288.61                       | 6,288.43                        |
| Pipe-B2.3M | MH-B2.2      | MH-B2.3      | 18.0          | 263.8                      | 0.012       | 1.83       | 1.04            | 6,285.93            | 6,284.61           | 6,288.41                       | 6,288.34                        |
| Pipe-B4M   | MH-B4        | MH-B3.2      | 24.0          | 33.4                       | 0.012       | 21.11      | 6.72            | 6,286.90            | 6,286.73           | 6,290.47                       | 6,290.22                        |
| Pipe-B4I   | MH-B4        | IN-B4        | 18.0          | 27.4                       | 0.012       | 2.78       | 1.57            | 6,287.35            | 6,287.21           | 6,291.55                       | 6,291.54                        |
| Pipe-B3.2M | MH-B3.2      | TEE-BLDG-5   | 36.0          | 55.2                       | 0.012       | 21.11      | 2.99            | 6,285.73            | 6,285.31           | 6,290.04                       | 6,289.99                        |
| Pipe-B3.2I | MH-B3.1      | IN-B3.2      | 18.0          | 14.0                       | 0.012       | 4.20       | 2.38            | 6,284.76            | 6,284.69           | 6,288.71                       | 6,288.69                        |
| Pipe-B3.1I | MH-B3.1      | IN-B3.1      | 18.0          | 32.0                       | 0.012       | 4.02       | 2.27            | 6,284.85            | 6,284.69           | 6,288.73                       | 6,288.69                        |
| Pipe-BT5   | TEE-BLDG-5   | TEE-BLDG-5/6 | 36.0          | 121.5                      | 0.012       | 22.21      | 3.14            | 6,285.31            | 6,284.39           | 6,289.72                       | 6,289.61                        |
| Pipe-B1.2M | MH-B2.1      | MH-B2.2      | 18.0          | 30.1                       | 0.012       | 4.12       | 2.33            | 6,284.51            | 6,284.36           | 6,288.27                       | 6,288.23                        |
| Pipe-B2.1M | MH-B2.1      | MH-B1.1      | 36.0          | 129.0                      | 0.012       | 39.34      | 5.57            | 6,283.24            | 6,282.60           | 6,287.38                       | 6,286.99                        |
| Pipe-B2.1I | MH-B2.2      | IN-B2.1      | 18.0          | 35.6                       | 0.012       | 2.29       | 1.30            | 6,284.89            | 6,284.71           | 6,288.36                       | 6,288.34                        |
| Pipe-B1.2I | MH-B1.2      | IN-B1.2      | 18.0          | 14.8                       | 0.012       | 4.45       | 2.52            | 6,283.95            | 6,283.88           | 6,287.35                       | 6,287.33                        |
| Pipe-B1.1I | MH-B1.2      | IN-B1.1      | 18.0          | 15.1                       | 0.012       | 6.03       | 3.41            | 6,283.96            | 6,283.88           | 6,287.37                       | 6,287.33                        |
| Pipe-B1.2M | MH-B1.1      | MH-B1.2      | 24.0          | 15.0                       | 0.012       | 10.48      | 3.34            | 6,283.38            | 6,283.20           | 6,287.02                       | 6,286.99                        |
| Pipe-B3.1M | MH-B3.1      | MH-B2.1      | 36.0          | 20.0                       | 0.013       | 35.22      | 4.98            | 6,283.44            | 6,283.34           | 6,288.28                       | 6,288.23                        |
| Pipe-B5M   | MH-B5.2      | MH-B4        | 24.0          | 221.3                      | 0.013       | 17.23      | 5.48            | 6,289.01            | 6,287.00           | 6,292.82                       | 6,291.54                        |
| Pipe-BT56  | TEE-BLDG-5/6 | TEE-BLDG-6   | 36.0          | 81.5                       | 0.012       | 25.90      | 3.66            | 6,284.39            | 6,283.77           | 6,289.24                       | 6,289.13                        |
| Pipe-BT6   | TEE-BLDG-6   | MH-B3.1      | 36.0          | 29.6                       | 0.012       | 27.00      | 3.82            | 6,283.77            | 6,283.54           | 6,288.73                       | 6,288.69                        |

HRG Response:  
Pipe slopes now included  
in conduit tables.

Provide slope for pipes

It appears highlighted pipes may have been put in backwards. Such as inverts for inlets (high/start end) match with MH inverts on CD's (Low/stop end)

See CDs for lengths that do not match with design

HRG Response:  
Pipe lengths checked for match with CDs.

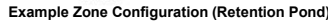
HRG Response:  
Pipe directions fixed.



## **APPENDIX D – WATER QUALITY AND DETENTION CALCULATIONS**

*MHFD-Detention, Version 4.06 (July 2022)*

**Basin ID: Pond 1 (SF2420) w/ Apartment Buildout**

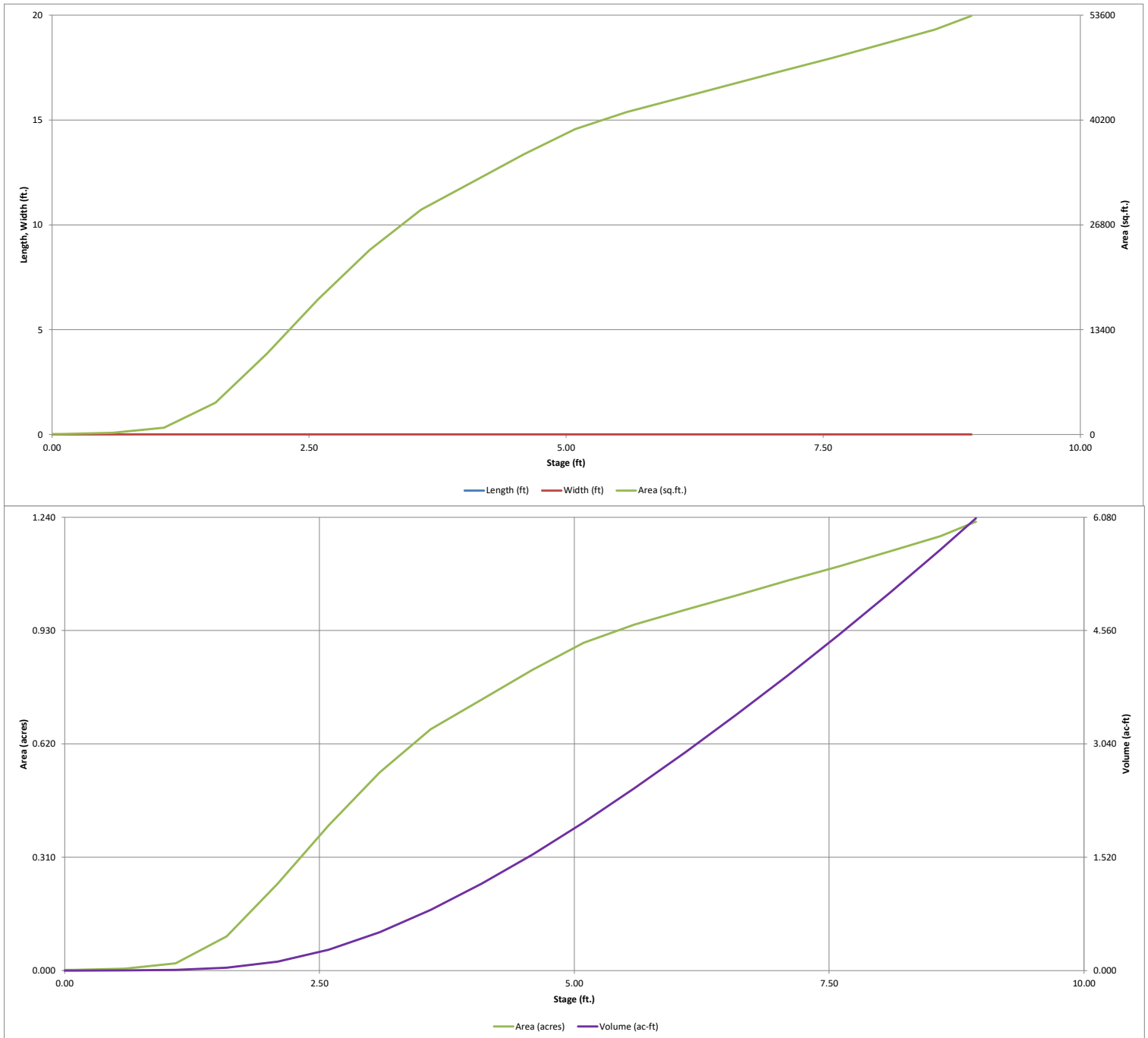


|      |           |
|------|-----------|
|      | acre-feet |
|      | acre-feet |
| 1.19 | inches    |
| 1.50 | inches    |
| 1.75 | inches    |
| 2.00 | inches    |
| 2.25 | inches    |
| 2.52 | inches    |
|      | inches    |

6/3/2026, 3:48 PM

# DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.06 (July 2022)

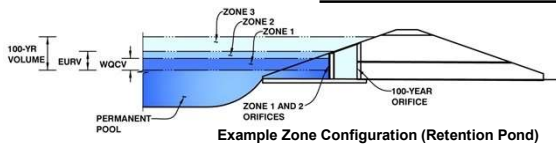


# DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.06 (July 2022)

**Project:** Hillpointe Apartments at Peterson

**Basin ID:** Pond 1 (SF2420) w/ Apartment Buildout



|                   | Estimated Stage (ft) | Estimated Volume (ac-ft) | Outlet Type          |
|-------------------|----------------------|--------------------------|----------------------|
| Zone 1 (WQCV)     | 3.36                 | 0.664                    | Orifice Plate        |
| Zone 2 (EURV)     | 5.36                 | 1.558                    | Circular Orifice     |
| Zone 3 (100-yr)   | 6.74                 | 1.361                    | Weir&Pipe (Restrict) |
| Total (all zones) |                      | 3.583                    |                      |

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

Underdrain Orifice Invert Depth =  ft (distance below the filtration media surface)  
Underdrain Orifice Diameter =  inches

Underdrain Orifice Area =  ft<sup>2</sup>  
Underdrain Orifice Centroid =  feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

Centroid of Lowest Orifice =  ft (relative to basin bottom at Stage = 0 ft)  
Depth at top of Zone using Orifice Plate =  ft (relative to basin bottom at Stage = 0 ft)  
Orifice Plate: Orifice Vertical Spacing =  inches  
Orifice Plate: Orifice Area per Row =  sq. inches

WQ Orifice Area per Row =  ft<sup>2</sup>  
Elliptical Half-Width =  feet  
Elliptical Slot Centroid =  feet  
Elliptical Slot Area =  ft<sup>2</sup>

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

|                                | Row 1 (required) | Row 2 (optional) | Row 3 (optional) | Row 4 (optional) | Row 5 (optional) | Row 6 (optional) | Row 7 (optional) | Row 8 (optional) |
|--------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Stage of Orifice Centroid (ft) | 0.00             | 1.50             | 3.00             |                  |                  |                  |                  |                  |
| Orifice Area (sq. inches)      | 2.41             | 2.24             | 1.92             |                  |                  |                  |                  |                  |

|                                | Row 9 (optional) | Row 10 (optional) | Row 11 (optional) | Row 12 (optional) | Row 13 (optional) | Row 14 (optional) | Row 15 (optional) | Row 16 (optional) |
|--------------------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Stage of Orifice Centroid (ft) |                  |                   |                   |                   |                   |                   |                   |                   |
| Orifice Area (sq. inches)      |                  |                   |                   |                   |                   |                   |                   |                   |

User Input: Vertical Orifice (Circular or Rectangular)

Invert of Vertical Orifice =  ft (relative to basin bottom at Stage = 0 ft)  
Depth at top of Zone using Vertical Orifice =  ft (relative to basin bottom at Stage = 0 ft)  
Vertical Orifice Diameter =  inches

Calculated Parameters for Vertical Orifice  
Zone 2 Circular   
Vertical Orifice Area =  ft<sup>2</sup>  
Vertical Orifice Centroid =  feet

User Input: Overflow Weir (Dropbox with Flat or Sloped Grate and Outlet Pipe OR Rectangular/Trapezoidal Weir and No Outlet Pipe)

Overflow Weir Front Edge Height, H<sub>o</sub> =  ft (relative to basin bottom at Stage = 0 ft)  
Overflow Weir Front Edge Length =  feet  
Overflow Weir Grate Slope =  H:V  
Horiz. Length of Weir Sides =  feet  
Overflow Grate Type =   
Debris Clogging % =  %

Calculated Parameters for Overflow Weir  
Zone 3 Weir   
Height of Grate Upper Edge, H<sub>t</sub> =  feet  
Overflow Weir Slope Length =  feet  
Grate Open Area / 100-yr Orifice Area =   
Overflow Grate Open Area w/o Debris =  ft<sup>2</sup>  
Overflow Grate Open Area w/ Debris =  ft<sup>2</sup>

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

Depth to Invert of Outlet Pipe =  ft (distance below basin bottom at Stage = 0 ft)  
Outlet Pipe Diameter =  inches  
Restrictor Plate Height Above Pipe Invert =  inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate  
Zone 3 Restrictor   
Outlet Orifice Area =  ft<sup>2</sup>  
Outlet Orifice Centroid =  feet  
Half-Central Angle of Restrictor Plate on Pipe =  radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage =  ft (relative to basin bottom at Stage = 0 ft)  
Spillway Crest Length =  feet  
Spillway End Slopes =  H:V  
Freeboard above Max Water Surface =  feet

Calculated Parameters for Spillway  
Spillway Design Flow Depth =  feet  
Stage at Top of Freeboard =  feet  
Basin Area at Top of Freeboard =  acres  
Basin Volume at Top of Freeboard =  acre-ft

## Routed Hydrograph Results

The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF).

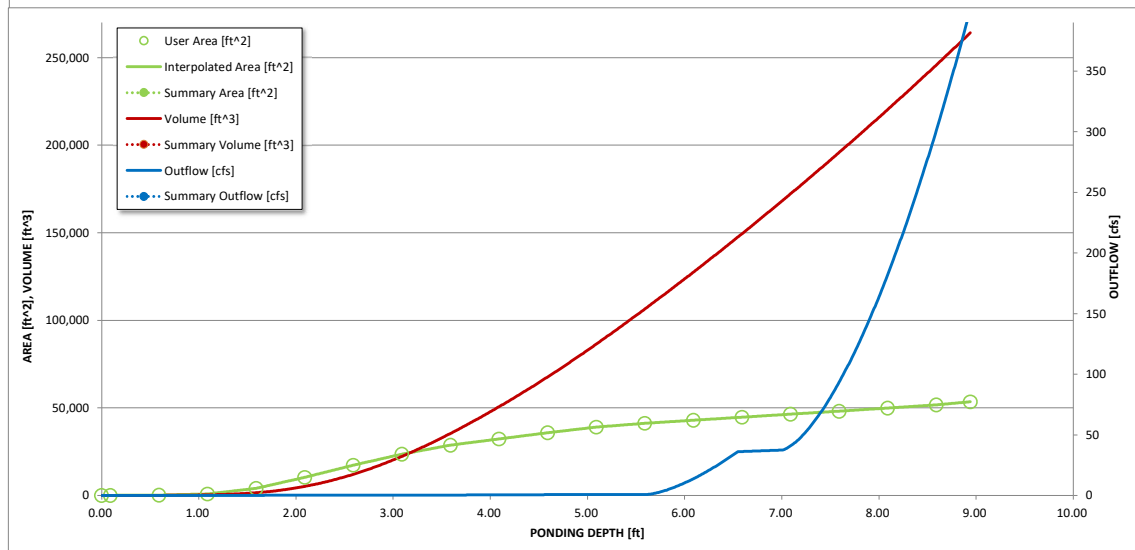
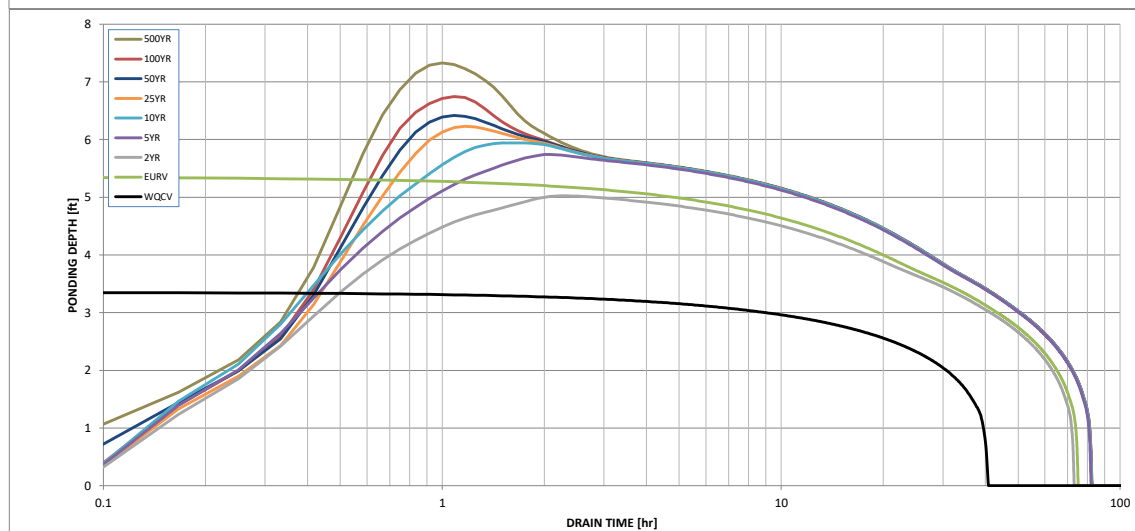
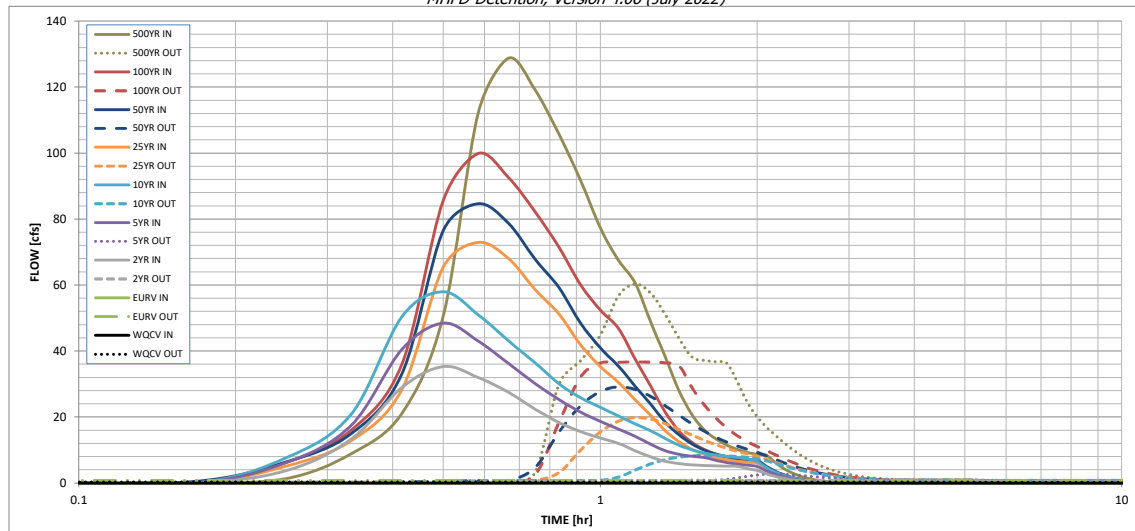
|                                                 | WQCV  | EURV               | 2 Year             | 5 Year          | 10 Year         | 25 Year         | 50 Year         | 100 Year       | 500 Year |
|-------------------------------------------------|-------|--------------------|--------------------|-----------------|-----------------|-----------------|-----------------|----------------|----------|
| Design Storm Return Period =                    | N/A   | N/A                | 1.19               | 1.50            | 1.75            | 2.00            | 2.25            | 2.52           | 3.14     |
| One-Hour Rainfall Depth (in) =                  | 0.664 | 2.221              | 2.041              | 2.789           | 3.426           | 4.209           | 4.883           | 5.702          | 7.419    |
| CUHP Runoff Volume (acre-ft) =                  | N/A   | N/A                | 2.041              | 2.789           | 3.426           | 4.209           | 4.883           | 5.702          | 7.419    |
| Inflow Hydrograph Volume (acre-ft) =            | N/A   | N/A                | 3.4                | 9.4             | 14.2            | 25.6            | 32.1            | 41.1           | 57.2     |
| CUHP Predevelopment Peak Q (cfs) =              | N/A   | N/A                |                    |                 |                 |                 |                 |                |          |
| OPTIONAL Override Predevelopment Peak Q (cfs) = | N/A   | N/A                |                    |                 |                 |                 |                 |                |          |
| Predevelopment Unit Peak Flow, q (cfs/acre) =   | N/A   | N/A                | 0.11               | 0.30            | 0.45            | 0.81            | 1.01            | 1.29           | 1.80     |
| Peak Inflow Q (cfs) =                           | N/A   | N/A                | 35.3               | 48.4            | 57.9            | 73.0            | 84.7            | 99.8           | 128.8    |
| Peak Outflow Q (cfs) =                          | 0.3   | 0.8                | 0.8                | 2.8             | 8.4             | 19.8            | 29.1            | 36.7           | 60.3     |
| Ratio Peak Outflow to Predevelopment Q =        | N/A   | N/A                | N/A                | 0.3             | 0.6             | 0.8             | 0.9             | 0.9            | 1.1      |
| Structure Controlling Flow =                    | Plate | Vertical Orifice 1 | Vertical Orifice 1 | Overflow Weir 1 | Overflow Weir 1 | Overflow Weir 1 | Overflow Weir 1 | Outlet Plate 1 | Spillway |
| Max Velocity through Grate 1 (fps) =            | N/A   | N/A                | N/A                | 0.1             | 0.3             | 0.8             | 1.1             | 1.4            | 1.5      |
| Max Velocity through Grate 2 (fps) =            | N/A   | N/A                | N/A                | N/A             | N/A             | N/A             | N/A             | N/A            | N/A      |
| Time to Drain 97% of Inflow Volume (hours) =    | 38    | 68                 | 66                 | 73              | 72              | 70              | 69              | 68             | 64       |
| Time to Drain 99% of Inflow Volume (hours) =    | 40    | 72                 | 70                 | 78              | 78              | 77              | 76              | 76             | 74       |
| Maximum Ponding Depth (ft) =                    | 3.36  | 5.36               | 5.03               | 5.74            | 5.94            | 6.23            | 6.42            | 6.75           | 7.33     |
| Area at Maximum Ponding Depth (acres) =         | 0.61  | 0.92               | 0.89               | 0.96            | 0.97            | 1.00            | 1.01            | 1.04           | 1.08     |
| Maximum Volume Stored (acre-ft) =               | 0.667 | 2.229              | 1.921              | 2.587           | 2.780           | 3.066           | 3.247           | 3.585          | 4.201    |

Time to Drain 97% of Inflow Volume (Hours): This does not meet the drain time requirements indicated in Senate Bill 15-212. Please revise accordingly.

**HRG Response:**  
Revised to ensure max drain time of 72hrs for 97% of the 5 year inflow volume.

# DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.06 (July 2022)



| S-A-V-D Chart Axis Override | X-axis | Left Y-Axis | Right Y-Axis |
|-----------------------------|--------|-------------|--------------|
| minimum bound               |        |             |              |
| maximum bound               |        |             |              |

# DETENTION BASIN OUTLET STRUCTURE DESIGN

Outflow Hydrograph Workbook Filename:

## Inflow Hydrographs

The user can override the calculated inflow hydrographs from this workbook with inflow hydrographs developed in a separate program.

| Time Interval | SOURCE  | CUHP       | CUHP       | CUHP         | CUHP         | CUHP          | CUHP          | CUHP          | CUHP           | CUHP           |
|---------------|---------|------------|------------|--------------|--------------|---------------|---------------|---------------|----------------|----------------|
|               | TIME    | WQCV [cfs] | EURV [cfs] | 2 Year [cfs] | 5 Year [cfs] | 10 Year [cfs] | 25 Year [cfs] | 50 Year [cfs] | 100 Year [cfs] | 500 Year [cfs] |
| 5.00 min      | 0:00:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 0:05:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 0:10:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.43          | 0.04           | 1.38           |
|               | 0:15:00 | 0.00       | 0.00       | 3.79         | 6.19         | 7.66          | 5.14          | 6.39          | 6.26           | 8.93           |
|               | 0:20:00 | 0.00       | 0.00       | 13.36        | 17.51        | 20.94         | 12.93         | 15.02         | 16.11          | 21.15          |
|               | 0:25:00 | 0.00       | 0.00       | 28.96        | 40.51        | 50.47         | 28.37         | 33.13         | 36.10          | 50.63          |
|               | 0:30:00 | 0.00       | 0.00       | 35.32        | 48.44        | 57.93         | 65.41         | 76.55         | 85.63          | 112.05         |
|               | 0:35:00 | 0.00       | 0.00       | 31.99        | 43.01        | 51.04         | 72.95         | 84.70         | 99.84          | 128.78         |
|               | 0:40:00 | 0.00       | 0.00       | 27.51        | 36.26        | 43.10         | 68.06         | 78.72         | 92.60          | 119.13         |
|               | 0:45:00 | 0.00       | 0.00       | 22.43        | 30.18        | 36.45         | 58.69         | 67.87         | 82.23          | 105.73         |
|               | 0:50:00 | 0.00       | 0.00       | 18.36        | 25.34        | 30.09         | 51.24         | 59.22         | 71.47          | 91.78          |
|               | 0:55:00 | 0.00       | 0.00       | 15.59        | 21.47        | 25.89         | 41.87         | 48.45         | 60.09          | 77.34          |
|               | 1:00:00 | 0.00       | 0.00       | 13.68        | 18.72        | 22.97         | 35.34         | 40.98         | 52.42          | 67.59          |
|               | 1:05:00 | 0.00       | 0.00       | 12.03        | 16.35        | 20.37         | 30.57         | 35.52         | 46.93          | 60.57          |
|               | 1:10:00 | 0.00       | 0.00       | 9.82         | 14.17        | 17.91         | 25.19         | 29.32         | 37.51          | 48.64          |
|               | 1:15:00 | 0.00       | 0.00       | 7.90         | 11.77        | 15.82         | 20.45         | 23.83         | 29.28          | 38.19          |
|               | 1:20:00 | 0.00       | 0.00       | 6.58         | 9.78         | 13.49         | 15.81         | 18.40         | 21.41          | 27.94          |
|               | 1:25:00 | 0.00       | 0.00       | 5.88         | 8.70         | 11.44         | 12.54         | 14.59         | 15.73          | 20.60          |
|               | 1:30:00 | 0.00       | 0.00       | 5.52         | 8.11         | 10.08         | 10.19         | 11.81         | 12.28          | 16.11          |
|               | 1:35:00 | 0.00       | 0.00       | 5.34         | 7.72         | 9.14          | 8.67          | 10.00         | 10.19          | 13.36          |
|               | 1:40:00 | 0.00       | 0.00       | 5.22         | 6.89         | 8.48          | 7.68          | 8.80          | 8.76           | 11.46          |
|               | 1:45:00 | 0.00       | 0.00       | 5.13         | 6.23         | 8.02          | 7.02          | 8.02          | 7.80           | 10.19          |
|               | 1:50:00 | 0.00       | 0.00       | 5.06         | 5.77         | 7.70          | 6.59          | 7.48          | 7.12           | 9.29           |
|               | 1:55:00 | 0.00       | 0.00       | 4.39         | 5.42         | 7.24          | 6.29          | 7.12          | 6.68           | 8.69           |
|               | 2:00:00 | 0.00       | 0.00       | 3.84         | 5.01         | 6.51          | 6.10          | 6.88          | 6.46           | 8.40           |
|               | 2:05:00 | 0.00       | 0.00       | 2.82         | 3.68         | 4.72          | 4.49          | 5.06          | 4.76           | 6.17           |
|               | 2:10:00 | 0.00       | 0.00       | 2.00         | 2.59         | 3.31          | 3.15          | 3.55          | 3.36           | 4.35           |
|               | 2:15:00 | 0.00       | 0.00       | 1.40         | 1.81         | 2.33          | 2.22          | 2.50          | 2.38           | 3.09           |
|               | 2:20:00 | 0.00       | 0.00       | 0.97         | 1.24         | 1.62          | 1.54          | 1.73          | 1.66           | 2.15           |
|               | 2:25:00 | 0.00       | 0.00       | 0.65         | 0.82         | 1.09          | 1.04          | 1.17          | 1.12           | 1.45           |
|               | 2:30:00 | 0.00       | 0.00       | 0.42         | 0.55         | 0.73          | 0.71          | 0.80          | 0.76           | 0.99           |
|               | 2:35:00 | 0.00       | 0.00       | 0.25         | 0.35         | 0.45          | 0.46          | 0.51          | 0.49           | 0.63           |
|               | 2:40:00 | 0.00       | 0.00       | 0.13         | 0.20         | 0.24          | 0.26          | 0.29          | 0.27           | 0.35           |
|               | 2:45:00 | 0.00       | 0.00       | 0.05         | 0.09         | 0.10          | 0.11          | 0.13          | 0.12           | 0.16           |
|               | 2:50:00 | 0.00       | 0.00       | 0.01         | 0.02         | 0.02          | 0.03          | 0.03          | 0.03           | 0.04           |
|               | 2:55:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 3:00:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 3:05:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 3:10:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 3:15:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 3:20:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 3:25:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 3:30:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 3:35:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 3:40:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 3:45:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 3:50:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 3:55:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 4:00:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 4:05:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 4:10:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 4:15:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 4:20:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 4:25:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 4:30:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 4:35:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 4:40:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 4:45:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 4:50:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 4:55:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 5:00:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 5:05:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 5:10:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 5:15:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 5:20:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 5:25:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 5:30:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 5:35:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 5:40:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 5:45:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 5:50:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 5:55:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |
|               | 6:00:00 | 0.00       | 0.00       | 0.00         | 0.00         | 0.00          | 0.00          | 0.00          | 0.00           | 0.00           |

## DETENTION BASIN OUTLET STRUCTURE DESIGN

*MHFD-Detention, Version 4.06 (July 2022)*

### Summary Stage-Area-Volume-Discharge Relationships

The user can create a summary S-A-V-D by entering the desired stage increments and the remainder of the table will populate automatically.

The user should graphically compare the summary S-A-V-D table to the full S-A-V-D table in the chart to confirm it captures all key transition points.

[illegible]





# HILLPOINTE APTS AT PETERSON

Calc'd by:

CMD

2502477

Checked by:

RDL

## FOREBAY B WQCV CALCULATION

Date:

6/3/2026

| Input Parameters |          |              |                  |
|------------------|----------|--------------|------------------|
| Basin            | <i>a</i> | <i>I</i> (%) | <i>A</i> (acres) |
| B                | 1.0      | 67.1%        | 8.07             |

| Calculated Parameters |                         |                      |
|-----------------------|-------------------------|----------------------|
| Basin                 | WQCV (watershed-inches) | <i>V</i> (acre-feet) |
| A1                    | 0.263                   | 0.177                |

WQCV was calculated using Equation 3-1 and Equation 3-2 in the MHFD USDCM V3.

$$WQCV = a(0.91I^3 - 1.19I^2 + 0.78I)$$

Equation 3-1

Where:

WQCV = Water Quality Capture Volume (watershed-inches)

*a* = Coefficient corresponding to BMP type and based on WQCV design drain time (Table 3-2)

*I* = Imperviousness (percent expressed as a decimal) Note: At a planning level, the watershed imperviousness can be estimated based on the zoned density. When finalizing design, calculate imperviousness based on the site plan.

**Table 3-2. Drain Time Coefficients for WQCV Calculations**

| Drain Time (hours)                             | Coefficient, <i>a</i> |
|------------------------------------------------|-----------------------|
| 12 hours (filtration BMPs and retention ponds) | 0.8                   |
| 24 hours (constructed wetland ponds)           | 0.9                   |
| 40 hours (extended detention)                  | 1.0                   |
| No attenuation (e.g., grass buffer or swale)   | 1.0                   |

$$V = \frac{WQCV}{12} A$$

Equation 3-2

Where:

*V* = required storage volume (acre-feet)

*A* = watershed tributary area upstream (acres)

WQCV = Water Quality Capture Volume (watershed-inches)

## HR GREEN FOREBAY SIZING

PROJECT: HILLPOINTE APARTMENTS AT PETERSON

DATE: 6/4/2026

DESIGNED BY: CMD

CHECKED BY: RDL

POND OR DP: BASIN B

Forebay and trickle channel calcs will be reviewed when provided with design

$$w = 9.23 (A_{FB} / t) (1 / \sqrt{h_{max}})$$

Equation 4-1

Where:

$w$  = width of the rectangular vertical notch (inches)

$A_{FB}$  = surface area of the forebay (square feet)

$t$  = emptying time of the brim-full forebay (seconds)

$h_{max}$  = maximum depth of the forebay (feet)

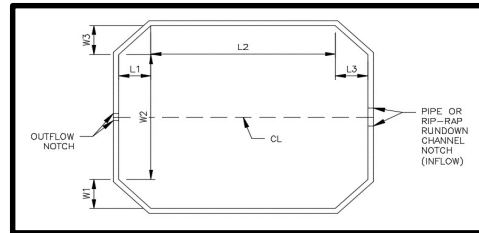
TABLE 4-12. FOREBAY SIZING CRITERIA

| FOREBAY SIZING CRITERIA                | WATERSHED IMPERVIOUS AREA (IA)                          |                                                    |                     |                      |                          |
|----------------------------------------|---------------------------------------------------------|----------------------------------------------------|---------------------|----------------------|--------------------------|
|                                        | IA UP TO 2 ACRES                                        | IA 2 UP TO 5 ACRES                                 | IA 5 UP TO 10 ACRES | IA 10 UP TO 20 ACRES | IA GREATER THAN 20 ACRES |
| Forebay Release Rate and Configuration | Concrete sediment pad with dense grasses surrounding,   | Size to drain in 4 to 5 minutes using Equation 4-1 |                     |                      |                          |
| Minimum Forebay Volume <sup>1</sup>    | concrete pad with slotted metal edge, or similar design | 1% of WQCV                                         |                     |                      |                          |
| Forebay Depth <sup>1</sup>             |                                                         | 12 to 15 inches                                    | 15 to 18 inches     | 18 to 24 inches      | 24 to 30 inches          |

<sup>1</sup> Appropriate volume and depth should consider maintenance and access needs. The values provided are approximate and provide a starting point for design.

|               | INNER DIMENSIONS     | OUTER DIMENSIONS        |
|---------------|----------------------|-------------------------|
| <b>LENGTH</b> |                      |                         |
| L1            | 2 FT                 | 2.83 FT                 |
| L2            | 9.167 FT             | 10.000 FT               |
| L3            | 2 FT                 | 2.83 FT                 |
| INNER L       | 13.167 FT            | OUTER TOTAL L 14.833 FT |
| <b>WIDTH</b>  |                      |                         |
| W1            | 2 FT                 | 2.83 FT                 |
| W2            | 6.875 FT (75% of L2) | 7.71 FT                 |
| W3            | 2 FT                 | 2.83 FT                 |
| INNER W       | 10.875 FT            | OUTER TOTAL W 12.541 FT |

**BAFFLE AREA** (W2'x0.83' + 2.5'x0.83')  
7.81 SF



|                           |                   |
|---------------------------|-------------------|
| TRIANGLES                 | 8                 |
| RECTANGLE                 | 63.0              |
| BAFFLE                    | 7.8               |
| <b>TOTAL SURFACE AREA</b> | <b>63.2 SQ FT</b> |

FOREBAY HT. **1.25 FT**

|                |      |       |                    |     |
|----------------|------|-------|--------------------|-----|
| FOREBAY VOLUME | 79.0 | CF    | SUFFICIENT VOLUME? | YES |
|                | 2.9  | CY    |                    |     |
|                | 0.0  | AC-FT |                    |     |

|                         |         |       |
|-------------------------|---------|-------|
| REQ'D VOL (1% WQCV)     | 0.00177 | AC-FT |
|                         | 77.1012 | CF    |
| Notch Width per Eq. 4-1 | 1.9     | in    |

# Channel Report

## Trickle Channel Sizing - Forebay B

### Rectangular

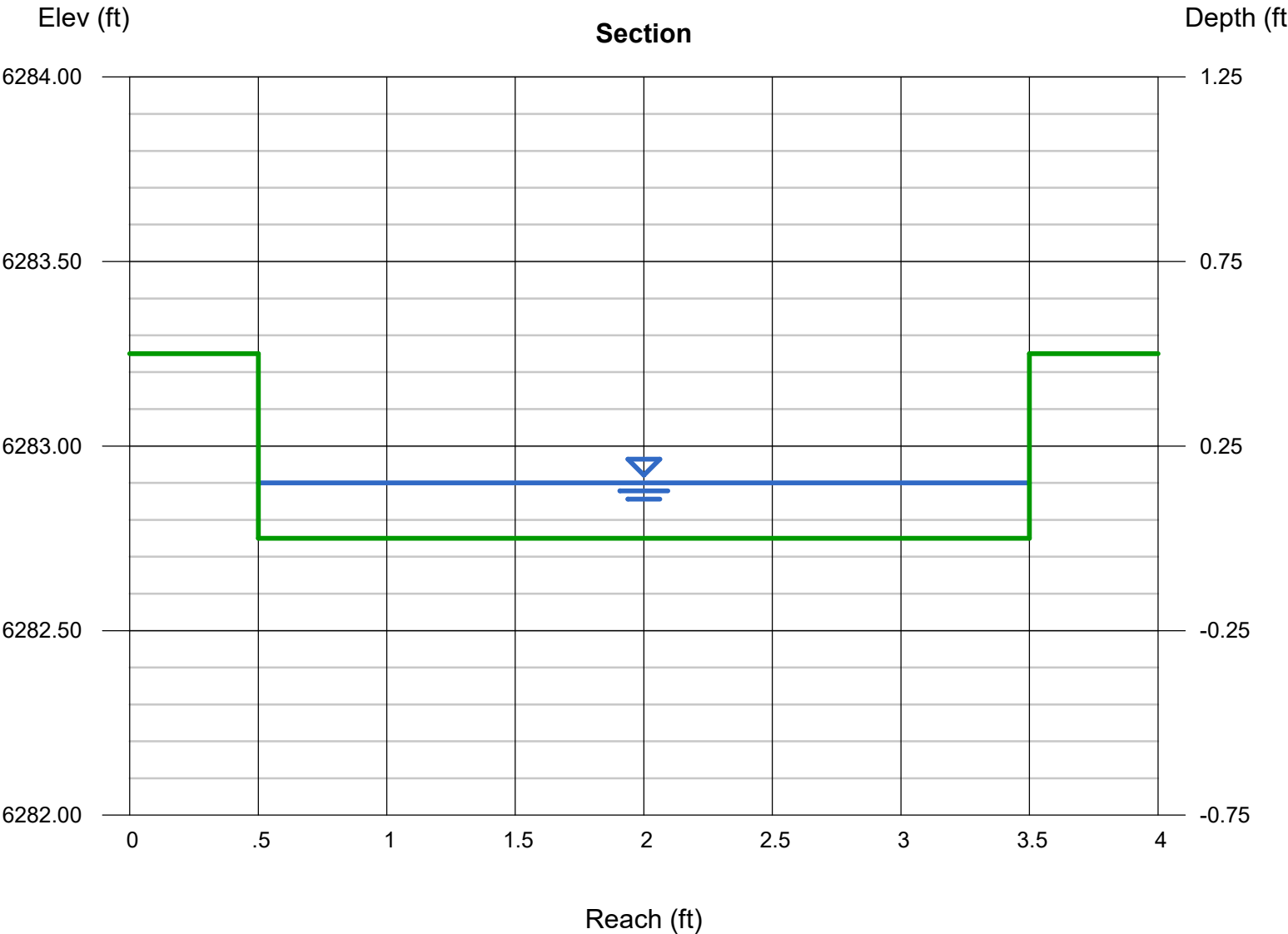
Bottom Width (ft) = 3.00  
Total Depth (ft) = 0.50  
  
Invert Elev (ft) = 6282.75  
Slope (%) = 0.50  
N-Value = 0.012

### Calculations

Compute by: Known Q  
Known Q (cfs) = 1.00

### Highlighted

Depth (ft) = 0.15  
Q (cfs) = 1.000  
Area (sqft) = 0.45  
Velocity (ft/s) = 2.22  
Wetted Perim (ft) = 3.30  
Crit Depth, Yc (ft) = 0.16  
Top Width (ft) = 3.00  
EGL (ft) = 0.23





## **APPENDIX E – REFERENCE MATERIAL**

Rational Method - Proposed Conditions

|                   |                                                 |
|-------------------|-------------------------------------------------|
| Project Name:     | CIMARRON HILLS SOUTHEAST MIXED USE FILING NO. 1 |
| Project Location: | EL PASO COUNTY                                  |
| Designer          | WCG                                             |
| Notes:            | PROPOSED CONDITIONS                             |

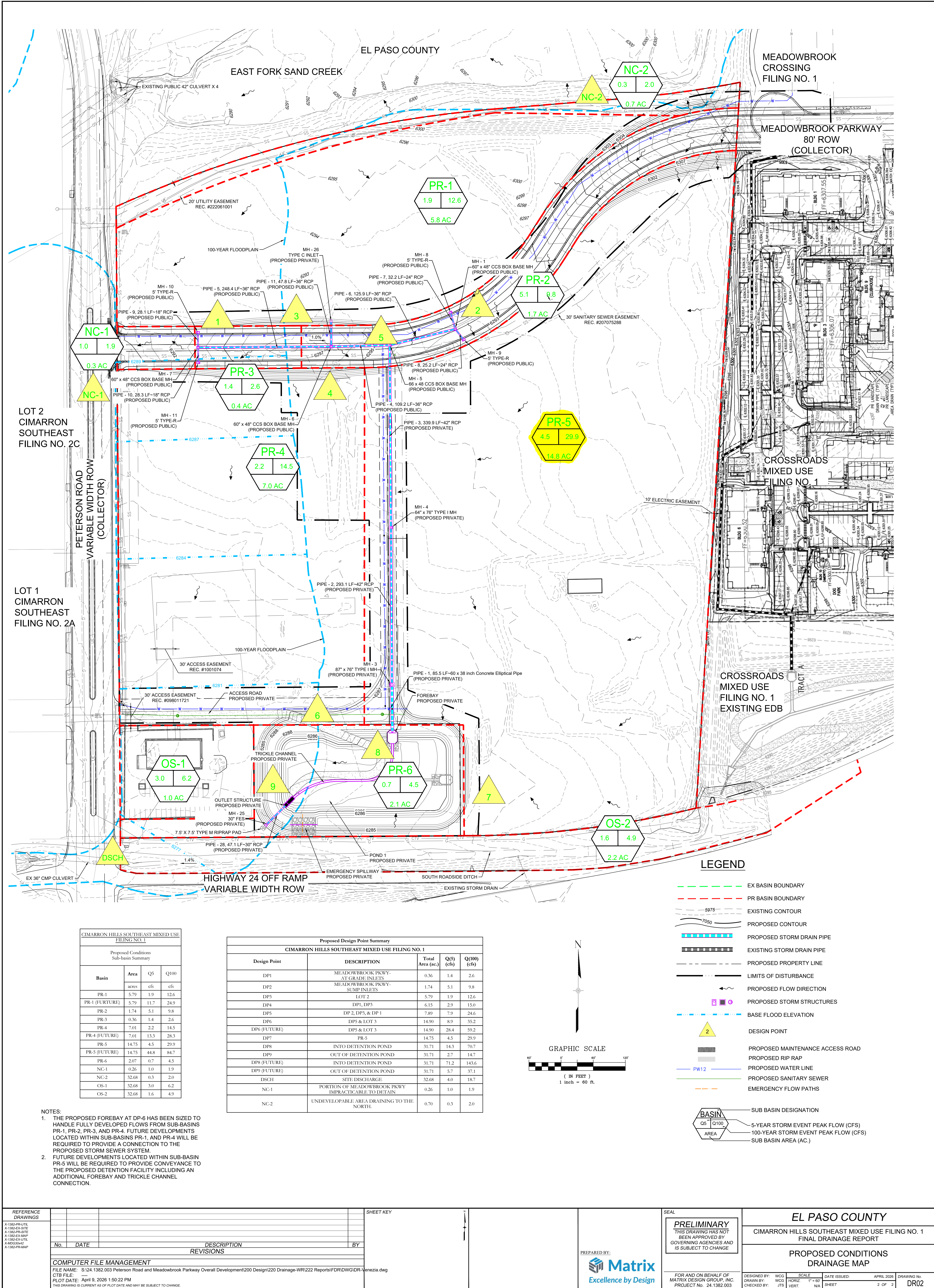
Average Channel Velocity 4.00 ft/s (If specific channel vel is used, this will be ignored)

Average Slope for Initial Flow 0.04 ft/ft (If Elevations are used, this will be ignored)

|                         |   |
|-------------------------|---|
| Channel Flow Type Key   |   |
| Heavy Meadow            | 2 |
| Tillage/Field           | 3 |
| Short Pasture and Lawns | 4 |
| Nearly Bare Ground      | 5 |
| Grassed Waterway        | 6 |
| Paved Areas             | 7 |

|               |                                                           | Area       |       |            | Rational 'C' Values               |      |        |                            |      |           |                                             |      |        |                                            |      |         |           |      |                    | Flow Lengths |              |         |              |                   |         |             |                                   |          |         | Tc    | Rainfall Intensity & Rational Flow Rate |      |      |       |               |
|---------------|-----------------------------------------------------------|------------|-------|------------|-----------------------------------|------|--------|----------------------------|------|-----------|---------------------------------------------|------|--------|--------------------------------------------|------|---------|-----------|------|--------------------|--------------|--------------|---------|--------------|-------------------|---------|-------------|-----------------------------------|----------|---------|-------|-----------------------------------------|------|------|-------|---------------|
| Sub-basin     | Comments                                                  | sf         | acres | Soil Group | Commercial Areas (95% Impervious) |      |        | Pavement (100% Impervious) |      |           | Neighborhoods/Multi-Family (70% Impervious) |      |        | Undeveloped/Pervious Areas (2% Impervious) |      |         | Composite |      | Percent Impervious | Initial      | True Initial | Channel | True Channel | Average (decimal) | Initial | Average (%) | Channel Flow Type (See Key above) | Velocity | Channel | Total | i5                                      | Q5   | i100 | Q100  | Sub-basin     |
|               |                                                           |            |       |            | C5                                | C100 |        | C5                         | C100 | Area (SF) | C5                                          | C100 | Area   | C5                                         | C100 | Area    | C5        | C100 |                    |              |              |         |              |                   |         |             |                                   |          |         |       |                                         |      |      |       |               |
| PR-1          | NORTH OF MEADOWBROOK PKWY UNDEVELOPED                     | 252158     | 5.79  | B          | 0.81                              | 0.88 |        | 0.90                       | 0.96 |           | 0.49                                        | 0.62 |        | 0.09                                       | 0.36 | 252158  | 0.09      | 0.36 | 2.00%              | 100          | 100          | 640     | 640          | 0.05              | 10.63   | 2.0         | 7                                 | 2.83     | 3.77    | 14.40 | 3.58                                    | 1.9  | 6.01 | 12.6  | PR-1          |
| PR-1 (FUTURE) | MULTI FAMILY                                              | 252158     | 5.79  | B          | 0.81                              | 0.88 |        | 0.90                       | 0.96 |           | 0.49                                        | 0.62 | 252158 | 0.09                                       | 0.36 |         | 0.49      | 0.62 | 70.00%             | 100          | 100          | 640     | 640          | 0.05              | 6.42    | 2.0         | 7                                 | 2.83     | 3.77    | 10.19 | 4.10                                    | 11.7 | 6.89 | 24.9  | PR-1 (FUTURE) |
| PR-2          | MEADOWBROOK PKWY                                          | 75883      | 1.74  | B          | 0.81                              | 0.88 |        | 0.90                       | 0.96 | 60512     | 0.49                                        | 0.62 |        | 0.09                                       | 0.36 | 15371   | 0.74      | 0.84 | 80.15%             | 50           | 50           | 1024    | 1024         | 0.03              | 3.18    | 1.1         | 7                                 | 2.10     | 8.14    | 11.31 | 3.94                                    | 5.1  | 6.62 | 9.8   | PR-2          |
| PR-3          | MEADOWBROOK PKWY                                          | 15685      | 0.36  | B          | 0.81                              | 0.88 |        | 0.90                       | 0.96 | 12508     | 0.49                                        | 0.62 |        | 0.09                                       | 0.36 | 3177    | 0.74      | 0.84 | 80.15%             | 50           | 50           | 136     | 136          | 0.02              | 3.68    | 1.1         | 7                                 | 2.10     | 1.08    | 5.00  | 5.17                                    | 1.4  | 8.68 | 2.6   | PR-3          |
| PR-4          | UNDEVELOPED                                               | 305176     | 7.01  | B          | 0.81                              | 0.88 |        | 0.90                       | 0.96 |           | 0.49                                        | 0.62 |        | 0.09                                       | 0.36 | 305176  | 0.09      | 0.36 | 2.00%              | 100          | 100          | 960     | 960          | 0.05              | 10.63   | 2.0         | 7                                 | 2.83     | 5.66    | 16.28 | 3.40                                    | 2.2  | 5.70 | 14.5  | PR-4          |
| PR-4 (FUTURE) | MULTI FAMILY                                              | 305176     | 7.01  | B          | 0.81                              | 0.88 |        | 0.90                       | 0.96 |           | 0.49                                        | 0.62 | 305176 | 0.09                                       | 0.36 |         | 0.49      | 0.62 | 70.00%             | 100          | 100          | 960     | 960          | 0.05              | 6.42    | 2.0         | 7                                 | 2.83     | 5.66    | 12.07 | 3.85                                    | 13.3 | 6.46 | 28.3  | PR-4 (FUTURE) |
| PR-5          | MULTI FAMILY                                              | 642552     | 14.75 | B          | 0.81                              | 0.88 | 573478 | 0.90                       | 0.96 |           | 0.49                                        | 0.62 |        | 0.09                                       | 0.36 | 69074   | 0.73      | 0.82 | 85.00%             | 100          | 100          | 1460    | 1460         | 0.10              | 3.07    | 3.0         | 7                                 | 3.46     | 7.02    | 10.09 | 4.12                                    | 44.8 | 6.91 | 84.7  | PR-5          |
| PR-6          | DETENTION TRACT                                           | 90049      | 2.07  | B          | 0.81                              | 0.88 |        | 0.90                       | 0.96 |           | 0.49                                        | 0.62 |        | 0.09                                       | 0.36 | 90049   | 0.09      | 0.36 | 2.00%              | 25           | 25           | 330     | 330          | 0.25              | 3.11    | 0.5         | 4                                 | 0.49     | 11.11   | 14.22 | 3.60                                    | 0.7  | 6.05 | 4.5   | PR-6          |
| NC-1          | PORTION OF MEADOWBROOK PKWY IMPRACTICABLE TO DETAIN       | 11541      | 0.26  | B          | 0.81                              | 0.88 |        | 0.90                       | 0.96 | 9235      | 0.49                                        | 0.62 |        | 0.09                                       | 0.36 | 2306    | 0.74      | 0.84 | 80.42%             | 25           | 25           | 136     | 136          | 0.02              | 2.58    | 1.0         | 7                                 | 2.00     | 1.13    | 5.00  | 5.17                                    | 1.0  | 8.68 | 1.9   | NC-1          |
| NC-2          | UNDEVELOPABLE AREA DRAINING TO THE NORTH.                 | 30590      | 0.70  | B          | 0.81                              | 0.88 |        | 0.90                       | 0.96 |           | 0.49                                        | 0.62 |        | 0.09                                       | 0.36 | 30590   | 0.09      | 0.36 | 2.00%              | 25           | 25           | 188     | 188          | 0.05              | 5.32    | 12.0        | 4                                 | 2.42     | 1.29    | 6.60  | 4.75                                    | 0.3  | 7.98 | 2.0   | NC-2          |
| OS-1          | OFFSITE BASIN SOUTHWEST OF SITE. CONTAINS EXISTING HOTEL. | 43567      | 1.00  | B          | 0.81                              | 0.88 | 29246  | 0.90                       | 0.96 |           | 0.49                                        | 0.62 |        | 0.09                                       | 0.36 | 14321   | 0.57      | 0.71 | 64.43%             | 25           | 25           | 350     | 350          | 0.10              | 2.20    | 2.0         | 7                                 | 2.83     | 2.06    | 5.00  | 5.17                                    | 3.0  | 8.68 | 6.2   | OS-1          |
| OS-2          | South Roadside Ditch                                      | 94892      | 2.18  | B          | 0.81                              | 0.88 |        | 0.90                       | 0.96 | 19435     | 0.49                                        | 0.62 |        | 0.09                                       | 0.36 | 75457   | 0.26      | 0.48 | 22.07%             | 50           | 50           | 1073    | 1073         | 0.12              | 4.69    | 1.6         | 4                                 | 0.89     | 20.20   | 24.88 | 2.76                                    | 1.6  | 4.64 | 4.9   | OS-2          |
| DESIGN POINTS |                                                           | Sub-basins |       |            |                                   |      |        |                            |      |           |                                             |      |        |                                            |      |         |           |      |                    |              |              |         |              |                   |         |             |                                   |          |         |       |                                         |      |      |       | DESIGN POINTS |
| DP1           | MEADOWBROOK PKWY- AT GRADE INLETS                         | 15685      | 0.36  | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 12508     | 0.49                                        | 0.62 | 0      | 0.09                                       | 0.36 | 3177    | 0.74      | 0.84 | 80.15%             | 50           | 50           | 136     | 136          | 0.02              | 3.68    | 1.1         | 7                                 | 2.10     | 1.08    | 5.00  | 5.17                                    | 1.4  | 8.68 | 2.6   | DP1           |
| DP2           | MEADOWBROOK PKWY- SUMP INLETS                             | 75883      | 1.74  | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 60512     | 0.49                                        | 0.62 | 0      | 0.09                                       | 0.36 | 15371   | 0.74      | 0.84 | 80.15%             | 50           | 50           | 1024    | 1024         | 0.03              | 3.18    | 1.1         | 7                                 | 2.10     | 8.14    | 11.31 | 3.94                                    | 5.1  | 6.62 | 9.8   | DP2           |
| DP3           | LOT 2                                                     | 252158     | 5.79  | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 0         | 0.49                                        | 0.62 | 0      | 0.09                                       | 0.36 | 252158  | 0.09      | 0.36 | 2.00%              | 100          | 100          | 640     | 640          | 0.05              | 10.63   | 2.0         | 7                                 | 2.83     | 3.77    | 14.40 | 3.58                                    | 1.9  | 6.01 | 12.6  | DP3           |
| DP3 (FUTURE)  | LOT 2                                                     | 252158     | 5.79  | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 0         | 0.49                                        | 0.62 | 252158 | 0.09                                       | 0.36 | 0       | 0.49      | 0.62 | 70.00%             | 100          | 100          | 640     | 640          | 0.05              | 6.42    | 2.0         | 7                                 | 2.83     | 3.77    | 10.19 | 4.10                                    | 11.7 | 6.89 | 24.9  | DP3 (FUTURE)  |
| DP4           | DP1, DP3                                                  | 267842     | 6.15  | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 12508     | 0.49                                        | 0.62 | 0      | 0.09                                       | 0.36 | 255335  | 0.13      | 0.39 | 6.58%              | 50           | 50           | 1024    | 1024         | 0.05              | 7.24    | 2.0         | 7                                 | 2.83     | 6.03    | 13.27 | 3.70                                    | 2.9  | 6.22 | 15.0  | DP4           |
| DP4 (FUTURE)  | DP1, DP3                                                  | 267842     | 6.15  | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 12508     | 0.49                                        | 0.62 | 252158 | 0.09                                       | 0.36 | 3177    | 0.50      | 0.63 | 70.59%             | 50           | 50           | 1024    | 1024         | 0.05              | 4.43    | 2.0         | 7                                 | 2.83     | 6.03    | 10.46 | 4.06                                    | 12.7 | 6.82 | 26.7  | DP4 (FUTURE)  |
| DP5           | DP 2, DP3, & DP 1                                         | 343725     | 7.89  | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 73020     | 0.49                                        | 0.62 | 0      | 0.09                                       | 0.36 | 270705  | 0.26      | 0.49 | 22.82%             | 100          | 100          | 640     | 640          | 0.05              | 8.82    | 2.0         | 7                                 | 2.83     | 3.77    | 12.59 | 3.78                                    | 7.9  | 6.35 | 24.6  | DP5           |
| DP5 (FUTURE)  | DP2, DP3, & DP1                                           | 343725     | 7.89  | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 73020     | 0.49                                        | 0.62 | 252158 | 0.09                                       | 0.36 | 18547   | 0.56      | 0.68 | 72.70%             | 100          | 100          | 640     | 640          | 0.05              | 5.73    | 2.0         | 7                                 | 2.83     | 3.77    | 9.50  | 4.21                                    | 18.6 | 7.06 | 38.1  | DP5 (FUTURE)  |
| DP6           | DP5 & LOT 3                                               | 648901     | 14.90 | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 73020     | 0.49                                        | 0.62 | 0      | 0.09                                       | 0.36 | 575881  | 0.18      | 0.43 | 13.03%             | 100          | 100          | 1375    | 1375         | 0.05              | 9.67    | 2.0         | 7                                 | 2.83     | 8.10    | 17.77 | 3.27                                    | 8.9  | 5.48 | 35.2  | DP6           |
| DP6 (FUTURE)  | DP5 & LOT 3                                               | 648901     | 14.90 | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 73020     | 0.49                                        | 0.62 | 557334 | 0.09                                       | 0.36 | 18547   | 0.52      | 0.65 | 71.43%             | 100          | 100          | 1375    | 1375         | 0.05              | 6.06    | 2.0         | 7                                 | 2.83     | 8.10    | 14.15 | 3.61                                    | 28.4 | 6.06 | 59.2  | DP6 (FUTURE)  |
| DP7           | PR-5                                                      | 642552     | 14.75 | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 0         | 0.49                                        | 0.62 | 0      | 0.09                                       | 0.36 | 642552  | 0.09      | 0.36 | 2.00%              | 100          | 100          | 1460    | 1460         | 0.10              | 8.44    | 2.0         | 7                                 | 2.83     | 8.60    | 17.04 | 3.33                                    | 4.5  | 5.39 | 29.9  | DP7           |
| DP7 (FUTURE)  | PR-5                                                      | 642552     | 14.75 | B          | 0.81                              | 0.88 | 573478 | 0.90                       | 0.96 | 0         | 0.49                                        | 0.62 | 0      | 0.09                                       | 0.36 | 69074   | 0.73      | 0.82 | 85.00%             | 100          | 100          | 1460    | 1460         | 0.10              | 3.07    | 3.0         | 7                                 | 3.46     | 7.02    | 10.09 | 4.12                                    | 44.8 | 6.91 | 84.7  | DP7 (FUTURE)  |
| DP8           | INTO DETENTION POND                                       | 1381503    | 31.71 | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 73020     | 0.49                                        | 0.62 | 0      | 0.09                                       | 0.36 | 1308483 | 0.13      | 0.39 | 7.18%              | 100          | 100          | 1460    | 1460         | 0.10              | 8.08    | 2.0         | 7                                 | 2.83     | 8.60    | 16.68 | 3.36                                    | 14.3 | 5.64 | 70.7  | DP8           |
| DP9           | OUT OF DETENTION POND                                     | 1381503    | 31.71 | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 73020     | 0.49                                        | 0.62 | 0      | 0.09                                       | 0.36 | 1308483 | 0.13      | 0.39 | 7.18%              | 100          | 100          | 1460    | 1460         | 0.10              | 8.08    | 2.0         | 7                                 | 2.83     | 8.60    | 16.68 | 3.36                                    | 2.7  | 5.64 | 14.7  | DP9           |
| DP8 (FUTURE)  | INTO DETENTION POND                                       | 1381503    | 31.71 | B          | 0.81                              | 0.88 | 573478 | 0.90                       | 0.96 | 73020     | 0.49                                        | 0.62 | 557334 | 0.09                                       | 0.36 | 177671  | 0.59      | 0.71 | 73.22%             | 100          | 100          | 1460    | 1460         | 0.10              | 4.24    | 2.0         | 7                                 | 2.83     | 8.60    | 12.83 | 3.76                                    | 71.2 | 6.30 | 143.6 | DP8 (FUTURE)  |
| DP9 (FUTURE)  | OUT OF DETENTION POND                                     | 1381503    | 31.71 | B          | 0.81                              | 0.88 | 573478 | 0.90                       | 0.96 | 73020     | 0.49                                        | 0.62 | 557334 | 0.09                                       | 0.36 | 177671  | 0.59      | 0.71 | 73.22%             | 100          | 100          | 1460    | 1460         | 0.10              | 4.24    | 2.0         | 7                                 | 2.83     | 8.60    | 12.83 | 3.76                                    | 5.7  | 6.30 | 37.1  | DP9 (FUTURE)  |
| DSCH          | SITE DISCHARGE                                            | 1423634    | 32.68 | B          | 0.81                              | 0.88 | 29246  | 0.90                       | 0.96 | 82255     | 0.49                                        | 0.62 | 0      | 0.09                                       | 0.36 | 1325110 | 0.15      | 0.41 | 9.59%              | 100          | 100          | 1810    | 1810         | 0.10              | 7.92    | 2.0         | 7                                 | 2.83     | 10.67   | 18.58 | 3.20                                    | 4.0  | 5.37 | 18.7  | DSCH          |
| NC-1          | UNDETAINED DISCHARGE INTO PETERSON ROAD                   | 11541      | 0.26  | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 9235      | 0.49                                        | 0.62 | 0      | 0.09                                       | 0.36 | 2306    | 0.74      | 0.84 | 80.42%             | 25           | 25           | 136     | 136          | 0.02              | 2.58    | 1.0         | 7                                 | 2.00     | 1.13    | 5.00  | 5.17                                    | 1.0  | 8.68 | 1.9   | NC-1          |
| NC-2          | UNDETAINED DISCHARGE INTO EAST FORK SAND CREEK            | 30590      | 0.70  | B          | 0.81                              | 0.88 | 0      | 0.90                       | 0.96 | 0         | 0.49                                        | 0.62 | 0      | 0.09                                       | 0.36 | 30590   | 0.09      | 0.36 | 2.00%              | 25           | 25           | 188     | 188          | 0.05              | 5.32    | 12.0        | 4                                 | 2.42     | 1.29    | 6.60  | 4.75                                    | 0.3  | 7.98 | 2.0   | NC-2          |
|               |                                                           |            |       |            |                                   |      |        |                            |      |           |                                             |      |        |                                            |      |         |           |      |                    |              |              |         |              |                   |         |             |                                   |          |         |       |                                         |      |      |       |               |

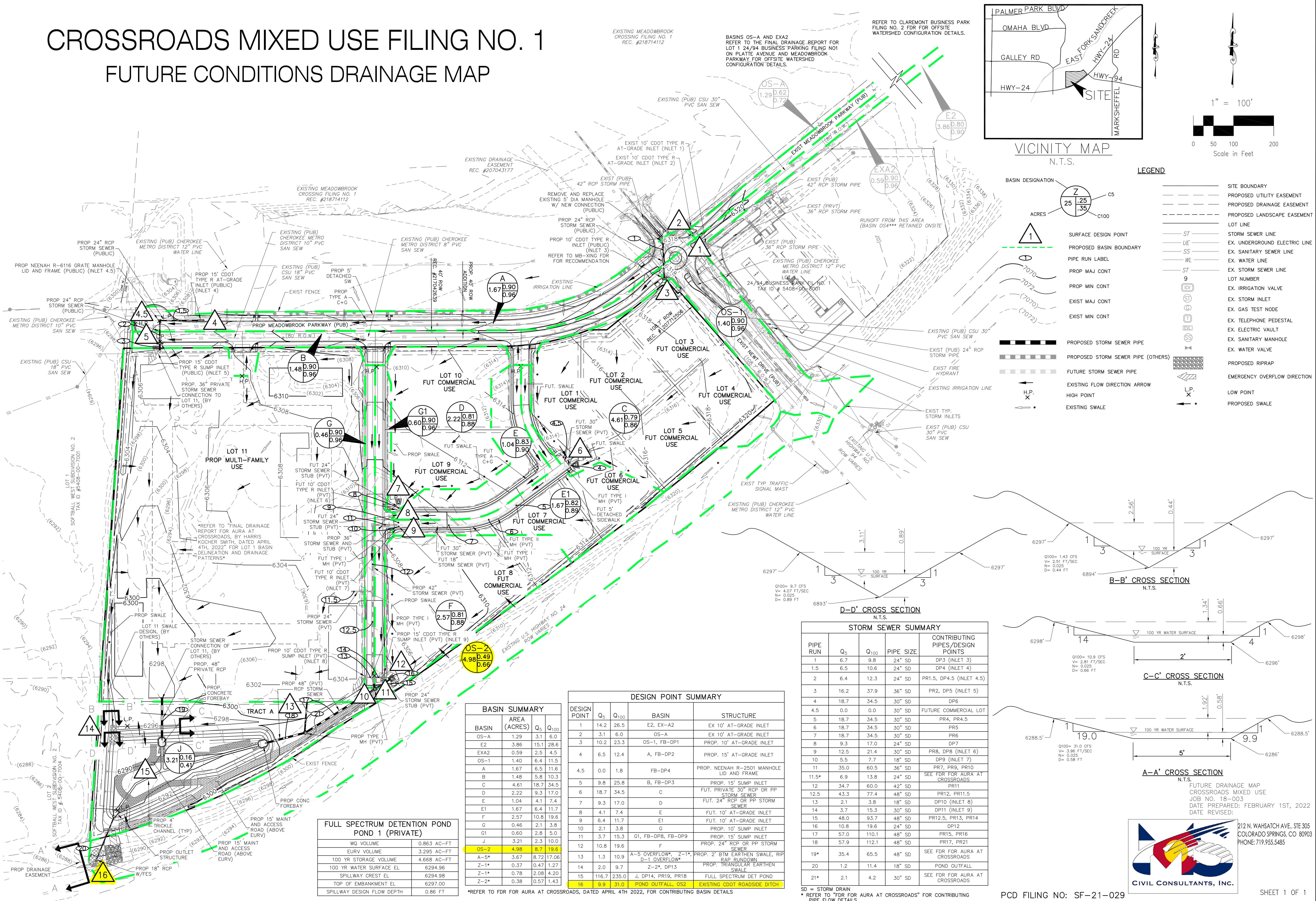






# CROSSROADS MIXED USE FILING NO. 1

## FUTURE CONDITIONS DRAINAGE MAP



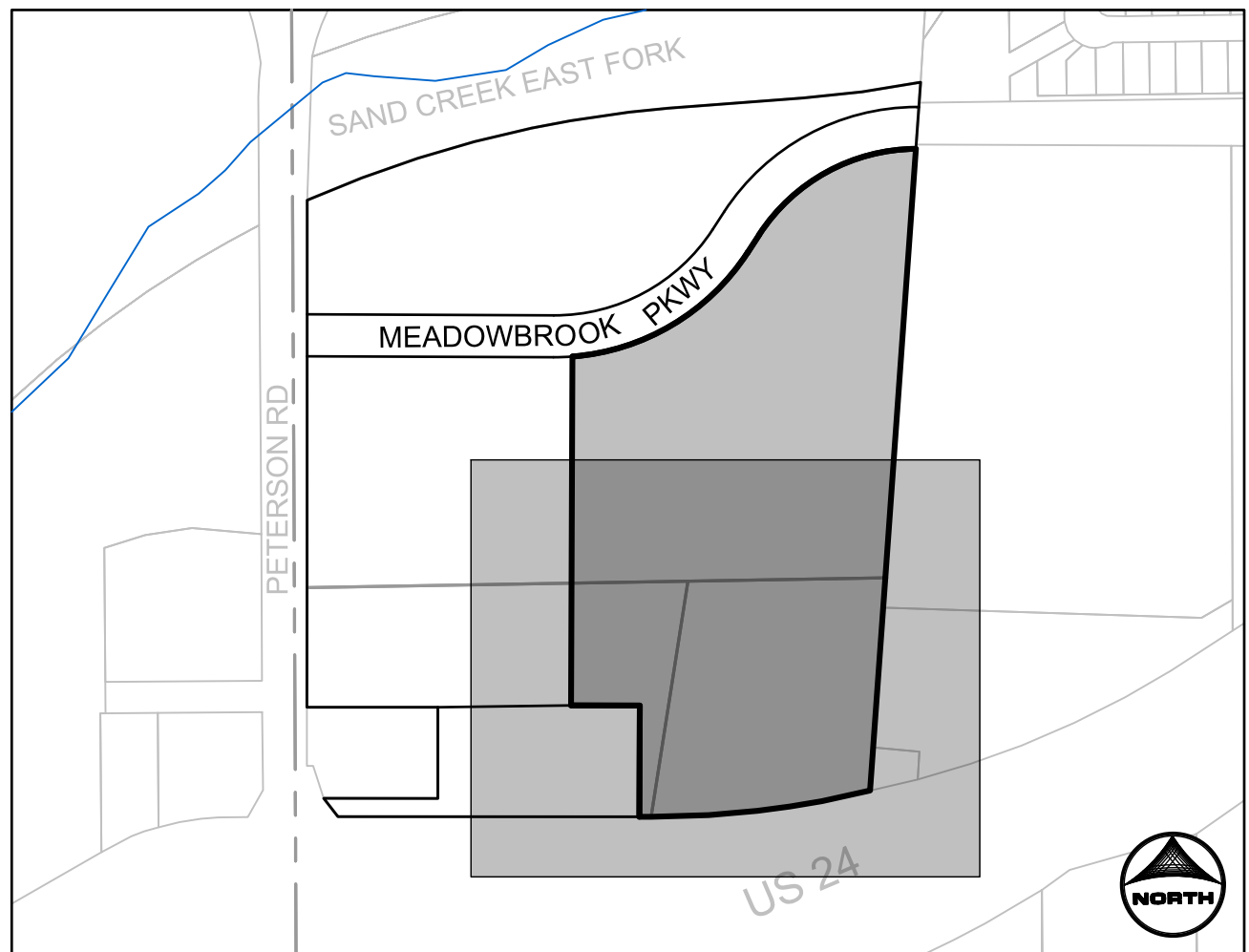
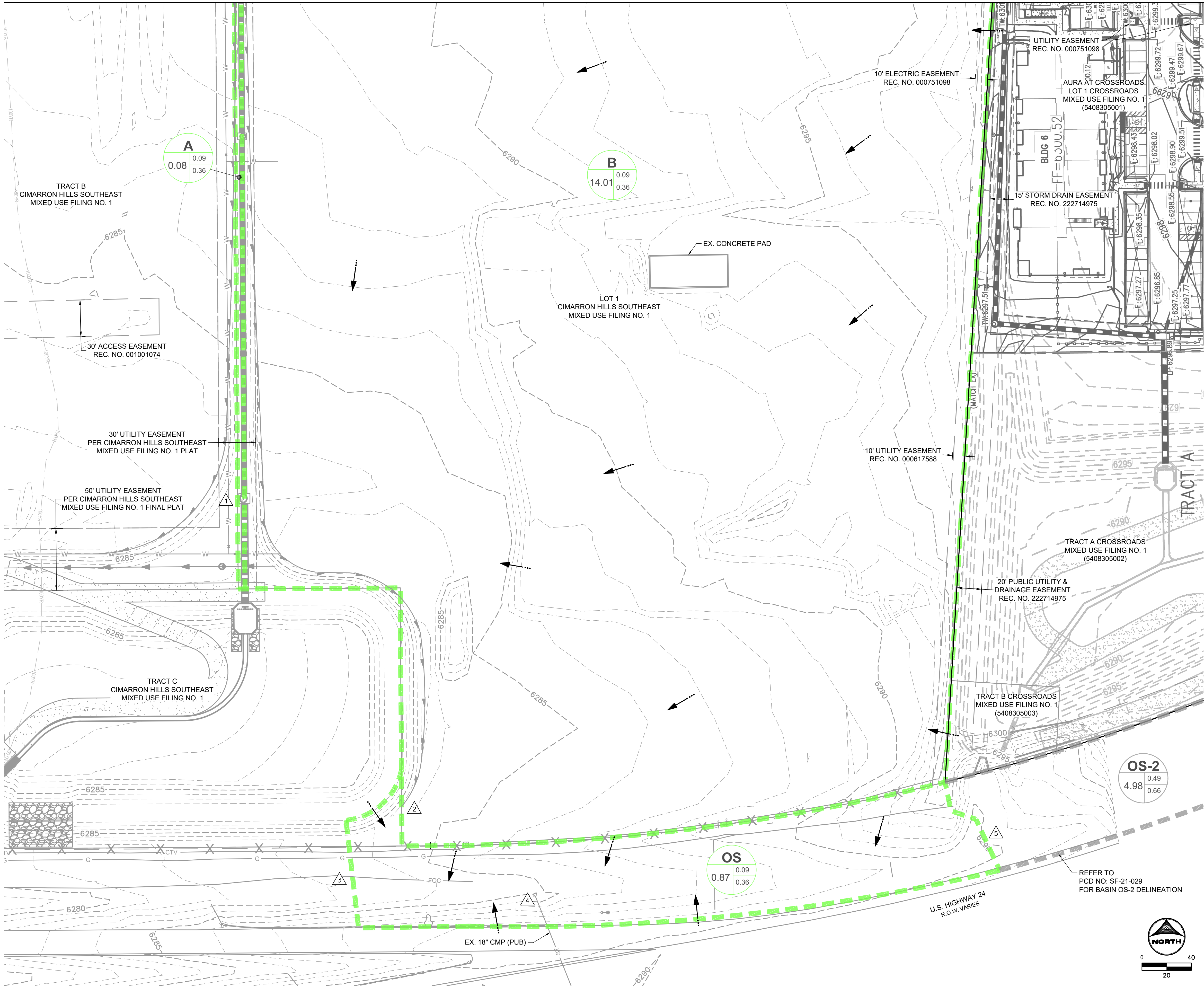




## **APPENDIX F – DRAINAGE MAPS**



MATCHLINE: SEE SHEET 2



KEY MAP  
SCALE: 1" = 350'

### LEGEND

|                | EXISTING | PROPOSED |
|----------------|----------|----------|
| PROPERTY LINE  | ---      | ---      |
| EASEMENT LINE  | ---      | ---      |
| RIGHT OF WAY   | ---      | ---      |
| CENTERLINE     | ---      | ---      |
| CURB & GUTTER  | ---      | ---      |
| DRAINAGE BASIN | ---      | ---      |
| MAJOR CONTOUR  | ---      | ---      |
| MINOR CONTOUR  | ---      | ---      |
| STORM SEWER    | ---      | ---      |
| RETAINING WALL | ---      | ---      |
| FLOW DIRECTION | ---      | ---      |
| DESIGN POINT   | ---      | ---      |

|                           |      |
|---------------------------|------|
| BASIN DESIGNATION         | A1   |
| AREA (AC.)                | 1.00 |
| MINOR 5-YR RUNOFF COEF.   | 0.40 |
| MAJOR 100-YR RUNOFF COEF. | 0.60 |

### SUMMARY RUNOFF TABLE

| BASIN | AREA (ac) | % IMPERVIOUS | Q <sub>s</sub> (cfs) | Q <sub>100</sub> (cfs) |
|-------|-----------|--------------|----------------------|------------------------|
| A     | 0.08      | 2            | 0.03                 | 0.20                   |
| B     | 14.01     | 2            | 3.95                 | 26.05                  |
| OS    | 0.87      | 2            | 0.29                 | 1.94                   |

### DESIGN POINT SUMMARY TABLE

| DESIGN POINT | CONTRIBUTING BASINS          | Σ Q <sub>s</sub> (cfs) | Σ Q <sub>100</sub> (cfs) |
|--------------|------------------------------|------------------------|--------------------------|
| 1            | A                            | 0.03                   | 0.20                     |
| 2            | B                            | 3.95                   | 26.05                    |
| 3            | OS, DP2, DP4, DP5            | 15.04                  | 47.59                    |
| 4            | OFFSITE US HWY 24            | -                      | -                        |
| 5            | OS-2, POND 1 OUT (SF-21-029) | 10.8                   | 19.6                     |

DRAWN BY: CMD JOB DATE: 6/4/2026  
APPROVED: RDL JOB NUMBER: ----  
CAD DATE: 6/19/2026  
CAD FILE: J:\2025\2502477\CAD\DWG\IC\Drainage\Ex\_Drainage\_Map

BAR IS ONE INCH ON OFFICIAL DRAWINGS.  
0" = 1"  
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

| NO. | DATE | BY | REVISION DESCRIPTION |
|-----|------|----|----------------------|
|     |      |    |                      |
|     |      |    |                      |
|     |      |    |                      |

HR GREEN - COLORADO SPRINGS  
1975 RESEARCH PARKWAY SUITE 160  
COLORADO SPRINGS, CO 80920  
PHONE: 719.300.4140  
FAX: 713.965.0044

HILLPOINTE APARTMENTS AT PETERSON  
HILLPOINTE, LLC.  
COLORADO SPRINGS, EL PASO COUNTY, COLORADO

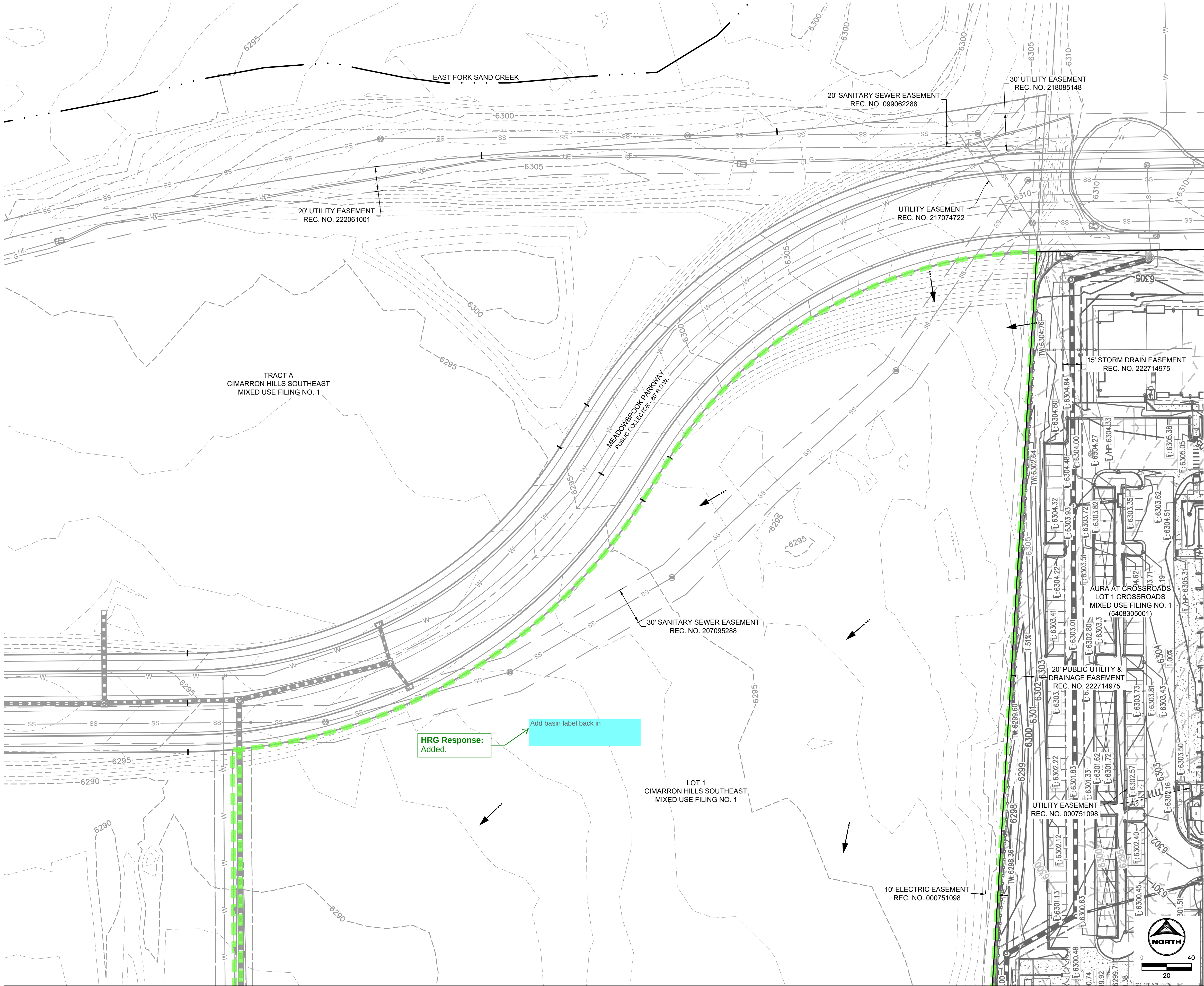
FINAL DRAINAGE REPORT  
EXISTING DRAINAGE MAP

PCD FILE NO.:

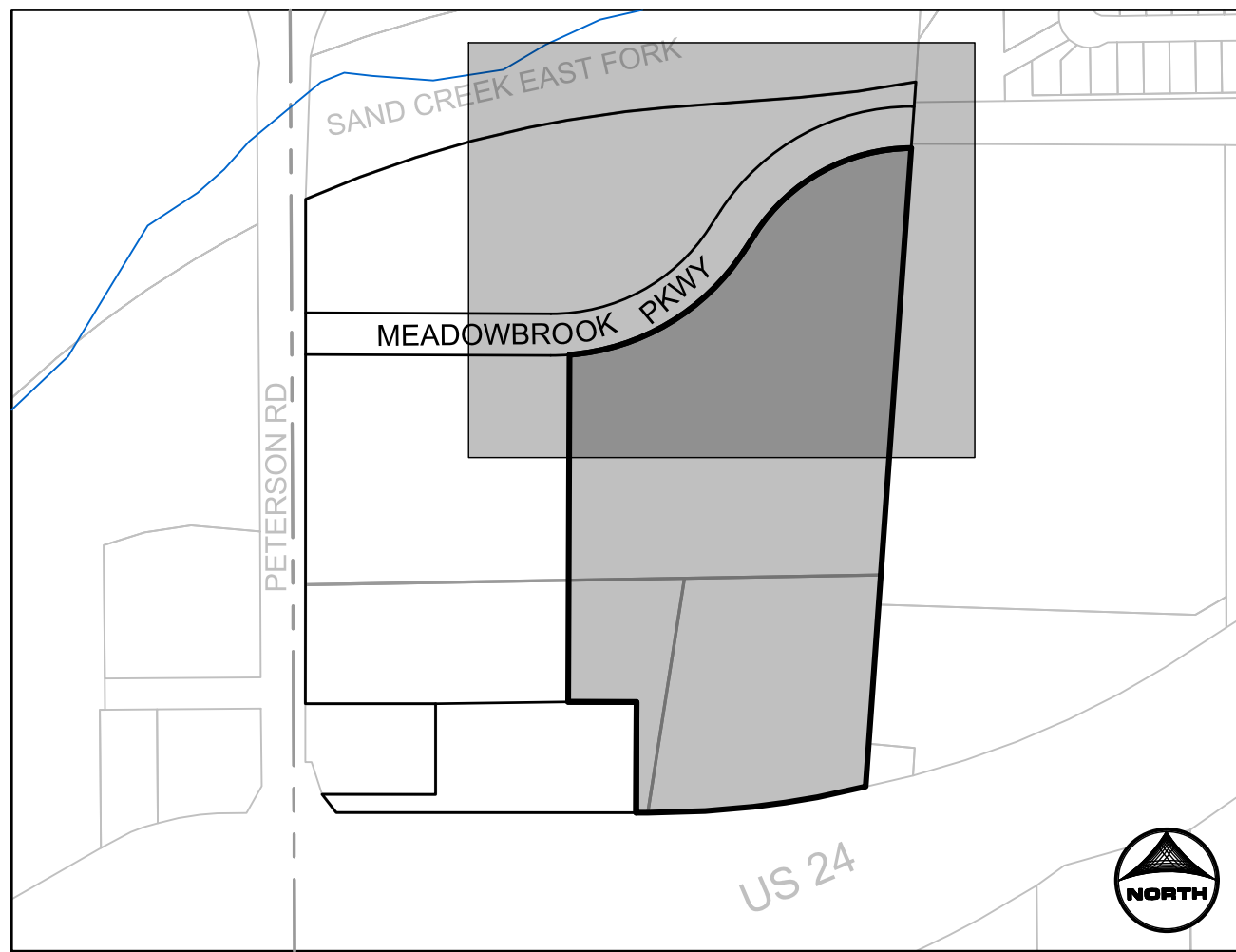
SHEET  
DR

1





MATCHLINE: SEE SHEET 1



KEY MAP  
SCALE: 1" = 350'

### LEGEND

|                | EXISTING | PROPOSED |
|----------------|----------|----------|
| PROPERTY LINE  | ---      | ---      |
| EASEMENT LINE  | ---      | ---      |
| RIGHT OF WAY   | ---      | ---      |
| CENTERLINE     | ---      | ---      |
| CURB & GUTTER  | ---      | ---      |
| DRAINAGE BASIN | ---      | ---      |
| MAJOR CONTOUR  | ---      | ---      |
| MINOR CONTOUR  | ---      | ---      |
| STORM SEWER    | ---      | ---      |
| RETAINING WALL | ---      | ---      |
| FLOW DIRECTION | ---      | ---      |
| DESIGN POINT   | ---      | ---      |

|             |                   |      |                           |
|-------------|-------------------|------|---------------------------|
| BASIN LABEL | BASIN DESIGNATION | A1   | MINOR 5-YR RUNOFF COEF.   |
|             | AREA (AC.)        | 1.00 | 0.40                      |
|             |                   |      | 0.60                      |
|             |                   |      | MAJOR 100-YR RUNOFF COEF. |

### SUMMARY RUNOFF TABLE

| BASIN | AREA (ac) | % IMPERVIOUS | Q <sub>s</sub> (cfs) | Q <sub>100</sub> (cfs) |
|-------|-----------|--------------|----------------------|------------------------|
| A     | 0.08      | 2            | 0.03                 | 0.20                   |
| B     | 14.01     | 2            | 3.95                 | 26.05                  |
| OS    | 0.87      | 2            | 0.29                 | 1.94                   |

### DESIGN POINT SUMMARY TABLE

| DESIGN POINT | CONTRIBUTING BASINS          | Σ Q <sub>s</sub> (cfs) | Σ Q <sub>100</sub> (cfs) |
|--------------|------------------------------|------------------------|--------------------------|
| 1            | A                            | 0.03                   | 0.20                     |
| 2            | B                            | 3.95                   | 26.05                    |
| 3            | OS, DP2, DP4, DP5            | 15.04                  | 47.59                    |
| 4            | OFFSITE US HWY 24            |                        |                          |
| 5            | OS-2, POND 1 OUT (SF-21-029) | 10.8                   | 19.6                     |

|                                                                    |                    |                                            |
|--------------------------------------------------------------------|--------------------|--------------------------------------------|
| DRAWN BY: CMD                                                      | JOB DATE: 6/4/2026 | BAR IS ONE INCH ON OFFICIAL DRAWINGS.      |
| APPROVED: RDL                                                      | JOB NUMBER: ----   | 0 1"                                       |
| CAD DATE: 6/19/2026                                                |                    | IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY. |
| CAD FILE: J:\2025\2502477\CAD\Drawings\CD\Drainage\Ex_Drainage_Map |                    |                                            |

| NO. | DATE | BY | REVISION DESCRIPTION |
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|     |      |    |                      |



HR GREEN - COLORADO SPRINGS  
1975 RESEARCH PARKWAY SUITE 160  
COLORADO SPRINGS, CO 80920  
PHONE: 719.300.4140  
FAX: 713.965.0044

HILLPOINTE APARTMENTS AT PETERSON  
HILLPOINTE, LLC.  
COLORADO SPRINGS, EL PASO COUNTY, COLORADO

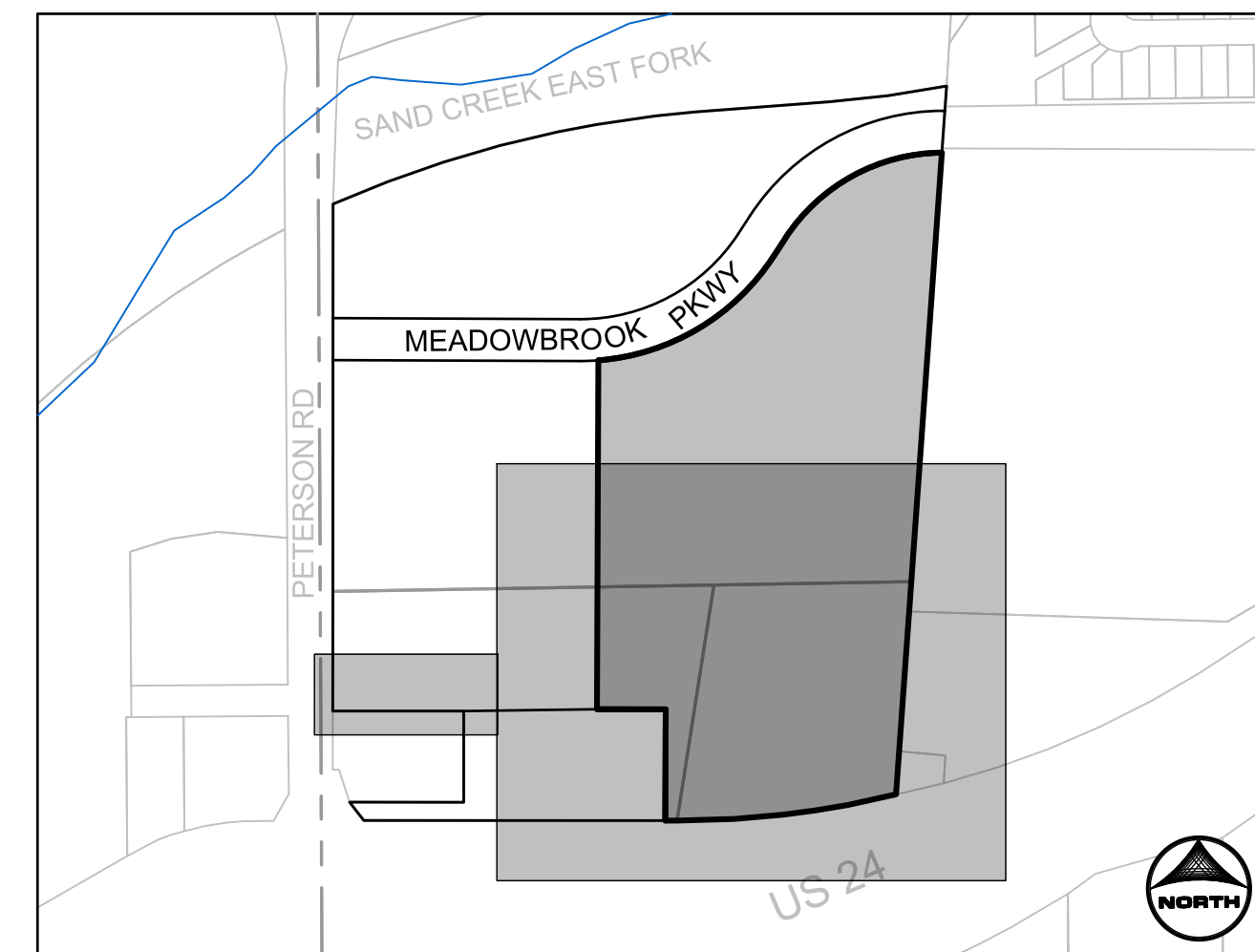
FINAL DRAINAGE REPORT  
EXISTING DRAINAGE MAP

PCD FILE NO.:

SHEET  
DR

2

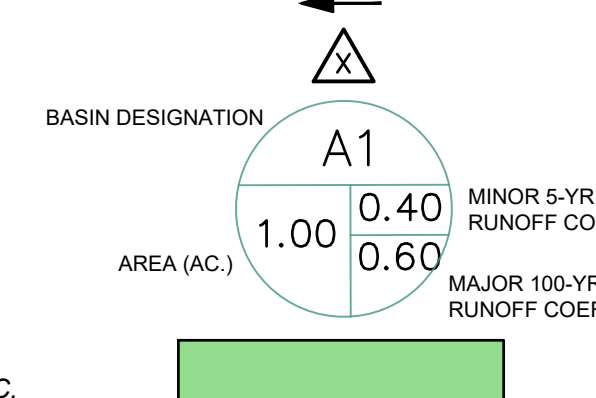




KEY MAP  
SCALE: 1" = 350'

|                | EXISTING                                                                            | PROPOSED                                                                            |
|----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| PROPERTY LINE  | —————                                                                               | —————                                                                               |
| EASEMENT LINE  | —————                                                                               | —————                                                                               |
| RIGHT OF WAY   | —————                                                                               | —————                                                                               |
| CENTERLINE     | —————                                                                               | —————                                                                               |
| CURB & GUTTER  | —————                                                                               | —————                                                                               |
| DRAINAGE BASIN |  |  |
| MAJOR CONTOUR  | ----- 5900                                                                          | ----- 5900                                                                          |
| MINOR CONTOUR  | ----- 5902                                                                          | ----- 5902                                                                          |
| STORM SEWER    | —————                                                                               | —————                                                                               |
| RETAINING WALL | —————                                                                               | —————                                                                               |
| FLOW DIRECTION |  |  |
| DESIGN POINT   |                                                                                     |  |

BASIN LABEL



AREA EXCLUDED FROM WQ TREATMENT  
PER ECM APP I.7.1.B.7, TOTAL AREA = 0.18 AC.

| DESIGN POINT SUMMARY TABLE |                     |                    |                      |
|----------------------------|---------------------|--------------------|----------------------|
| DESIGN POINT               | CONTRIBUTING BASINS | $\Sigma Q_b$ (cfs) | $\Sigma Q_{100}$ cfs |
| 1                          | A1.1                | 1.38               | 2.50                 |
| 2                          | A1.2                | 0.23               | 0.45                 |
| 3                          | A2, AR1             | 2.28               | 4.34                 |
| 4                          | A3                  | 1.01               | 1.98                 |
| 5                          | A4.1, A4.2          | 2.46               | 4.74                 |
| 6                          | A4.2                | 0.69               | 1.30                 |
| 7                          | A5.1                | 1.92               | 3.73                 |
| 8                          | A5.2                | 2.30               | 4.51                 |
| 9                          | A6.1                | 0.90               | 1.93                 |
| 10                         | A6.2                | 1.60               | 3.06                 |
| 11                         | A7                  | 1.28               | 2.49                 |
| 12                         | B1.1                | 3.13               | 6.03                 |
| 13                         | B1.2                | 2.27               | 4.45                 |
| 14                         | B2.1                | 1.19               | 2.29                 |
| 15                         | B2.2                | 0.96               | 1.83                 |
| 16                         | B3.1, BR5           | 2.09               | 4.02                 |
| 17                         | B3.2                | 2.15               | 4.20                 |
| 18                         | B4                  | 1.38               | 2.78                 |
| 19                         | B5, BR8             | 2.76               | 5.54                 |
| 20                         | B6, BR9             | 3.04               | 5.81                 |
| 21                         | B7, BR10            | 2.70               | 5.88                 |

PCD FILE NO.:

DRAWN BY: CMD JOB DATE: 6/18/2026 BAR IS ONE INCH ON  
APPROVED: RDL JOB NUMBER: ---- OFFICIAL DRAWINGS.  
CAD DATE: 6/19/2026 0            1"  
CAD FILE: J:\2025\2502477\CAD\Draws\C\Drainage\Pr Drainage Map IF NOT ONE INCH,  
ADJUST SCALE ACCORDINGLY

| NO. | DATE | BY | REVISION DESCRIPTION |
|-----|------|----|----------------------|
|     |      |    |                      |
|     |      |    |                      |
|     |      |    |                      |
|     |      |    |                      |



HR GREEN - COLORADO SPRINGS  
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HILLPOINTE APARTMENTS AT PETERSON  
HILLPOINTE, LLC.  
COLORADO SPRINGS, EL PASO COUNTY, COLORADO

FINAL DRAINAGE REPORT  
PROPOSED DRAINAGE MAP

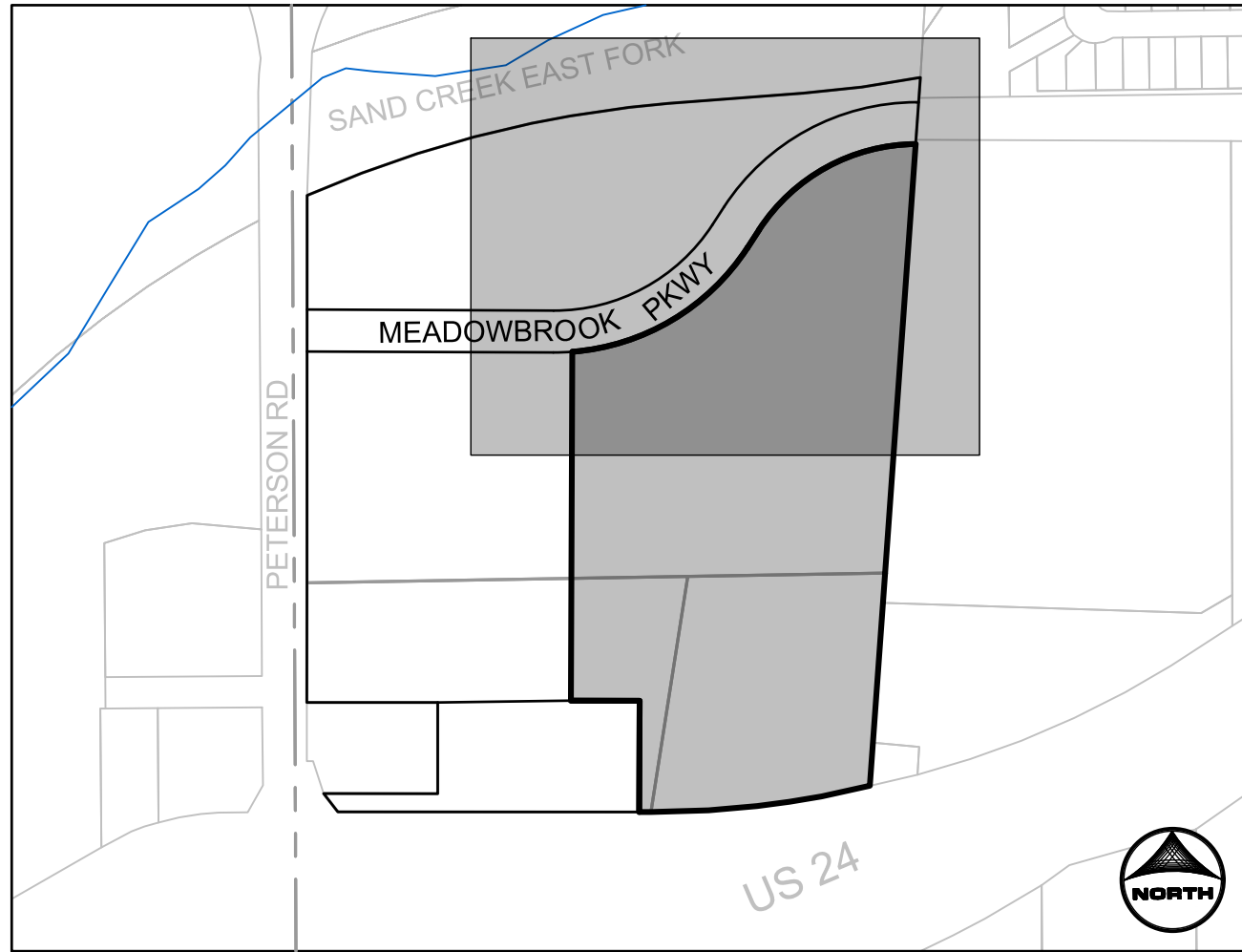
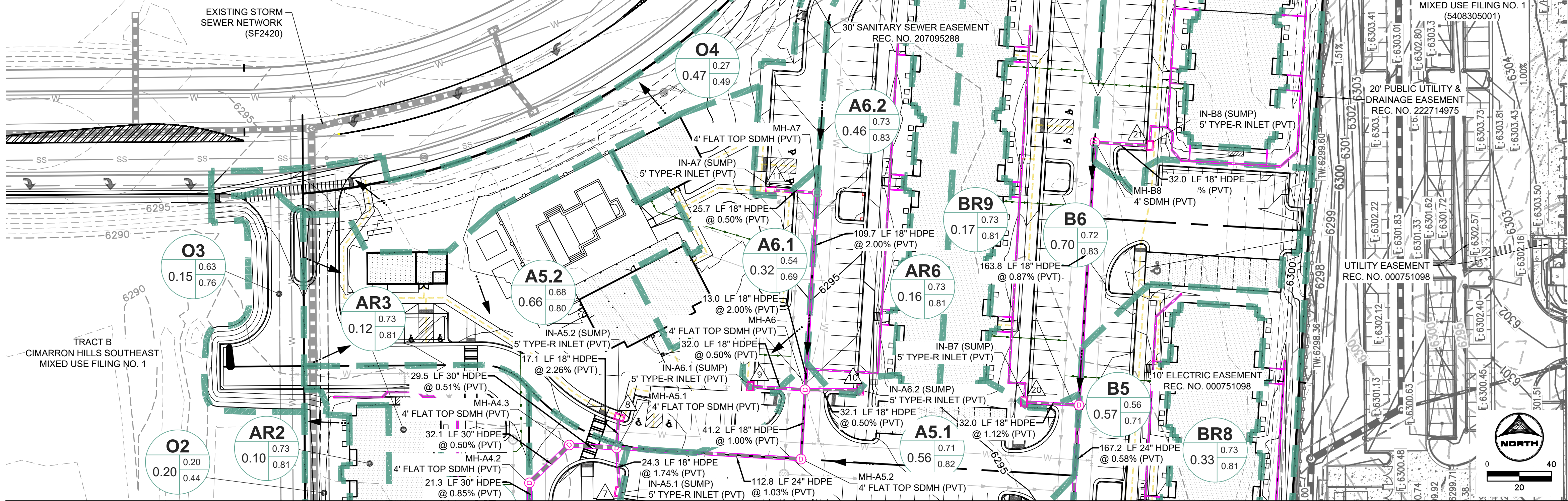
SHEET  
DR



| Water Quality Treatment Summary Table |                 |                                    |                                   |                                                            |                                                            |
|---------------------------------------|-----------------|------------------------------------|-----------------------------------|------------------------------------------------------------|------------------------------------------------------------|
| Basin ID                              | Total Area (ac) | Total Proposed Disturbed Area (ac) | Area Trib to Pond 1 (SF2420) (ac) | Disturbed Area Excluded from WQ per ECM App 1.7.1.C.1 (ac) | Disturbed Area Excluded from WQ per ECM App 1.7.1.B.7 (ac) |
| A1.1                                  | 0.31            | 0.31                               | 0.31                              |                                                            |                                                            |
| A1.2                                  | 0.07            | 0.07                               | 0.07                              |                                                            |                                                            |
| A2                                    | 0.49            | 0.49                               | 0.49                              |                                                            |                                                            |
| A3                                    | 0.28            | 0.28                               | 0.28                              |                                                            |                                                            |
| A4.1                                  | 0.49            | 0.49                               | 0.49                              |                                                            |                                                            |
| A4.2                                  | 0.17            | 0.17                               | 0.17                              |                                                            |                                                            |
| A5.1                                  | 0.56            | 0.56                               | 0.56                              |                                                            |                                                            |
| A5.2                                  | 0.66            | 0.66                               | 0.66                              |                                                            |                                                            |
| A6.1                                  | 0.32            | 0.32                               | 0.32                              |                                                            |                                                            |
| A6.2                                  | 0.46            | 0.46                               | 0.46                              |                                                            |                                                            |
| A7                                    | 0.40            | 0.40                               | 0.40                              |                                                            |                                                            |
| AR1                                   | 0.16            | 0.16                               | 0.16                              |                                                            |                                                            |
| AR2                                   | 0.10            | 0.10                               | 0.10                              |                                                            |                                                            |
| AR3                                   | 0.12            | 0.12                               | 0.12                              |                                                            |                                                            |
| AR4                                   | 0.16            | 0.16                               | 0.16                              |                                                            |                                                            |
| AR5                                   | 0.17            | 0.17                               | 0.17                              |                                                            |                                                            |
| AR6                                   | 0.16            | 0.16                               | 0.16                              |                                                            |                                                            |
| B1.1                                  | 0.96            | 0.96                               | 0.96                              |                                                            |                                                            |
| B1.2                                  | 0.71            | 0.71                               | 0.71                              |                                                            |                                                            |
| B2.1                                  | 0.31            | 0.31                               | 0.31                              |                                                            |                                                            |
| B2.2                                  | 0.25            | 0.25                               | 0.25                              |                                                            |                                                            |
| B3.1                                  | 0.41            | 0.41                               | 0.41                              |                                                            |                                                            |
| B3.2                                  | 0.61            | 0.61                               | 0.61                              |                                                            |                                                            |
| B4                                    | 0.42            | 0.42                               | 0.42                              |                                                            |                                                            |
| B5                                    | 0.57            | 0.57                               | 0.57                              |                                                            |                                                            |
| B6                                    | 0.70            | 0.70                               | 0.70                              |                                                            |                                                            |
| B7                                    | 0.88            | 0.88                               | 0.88                              |                                                            |                                                            |
| BL1                                   | 0.36            | 0.36                               | 0.36                              |                                                            |                                                            |
| BR1                                   | 0.10            | 0.10                               | 0.10                              |                                                            |                                                            |
| BR2                                   | 0.12            | 0.12                               | 0.12                              |                                                            |                                                            |
| BR3                                   | 0.16            | 0.16                               | 0.16                              |                                                            |                                                            |
| BR4                                   | 0.17            | 0.17                               | 0.17                              |                                                            |                                                            |
| BR5                                   | 0.17            | 0.17                               | 0.17                              |                                                            |                                                            |
| BR6                                   | 0.17            | 0.17                               | 0.17                              |                                                            |                                                            |
| BR7                                   | 0.16            | 0.16                               | 0.16                              |                                                            |                                                            |
| BR8                                   | 0.33            | 0.33                               | 0.33                              |                                                            |                                                            |
| BR9                                   | 0.17            | 0.17                               | 0.17                              |                                                            |                                                            |
| BR10                                  | 0.33            | 0.33                               | 0.33                              |                                                            |                                                            |
| O1                                    | 0.18            | 0.18                               | 0.00                              |                                                            | 0.18                                                       |
| O2                                    | 0.20            | 0.20                               | 0.20                              |                                                            |                                                            |
| O3                                    | 0.15            | 0.15                               | 0.15                              |                                                            |                                                            |
| O4                                    | 0.47            | 0.47                               | 0.47                              |                                                            |                                                            |
| O5                                    | 0.16            | 0.16                               | 0.00                              | 0.16                                                       |                                                            |
| O6                                    | 0.18            | 0.18                               | 0.00                              | 0.18                                                       |                                                            |
| P1                                    | 0.17            | 0.17                               | 0.17                              |                                                            |                                                            |
| Total                                 | 14.65           | 14.65                              | 14.14                             | 0.34                                                       | 0.18                                                       |
| Min Required Area to Receive WQ (ac)  |                 |                                    |                                   |                                                            |                                                            |
|                                       | 14.14           | 14.65                              | 14.14                             | 0.52                                                       | 0.00                                                       |

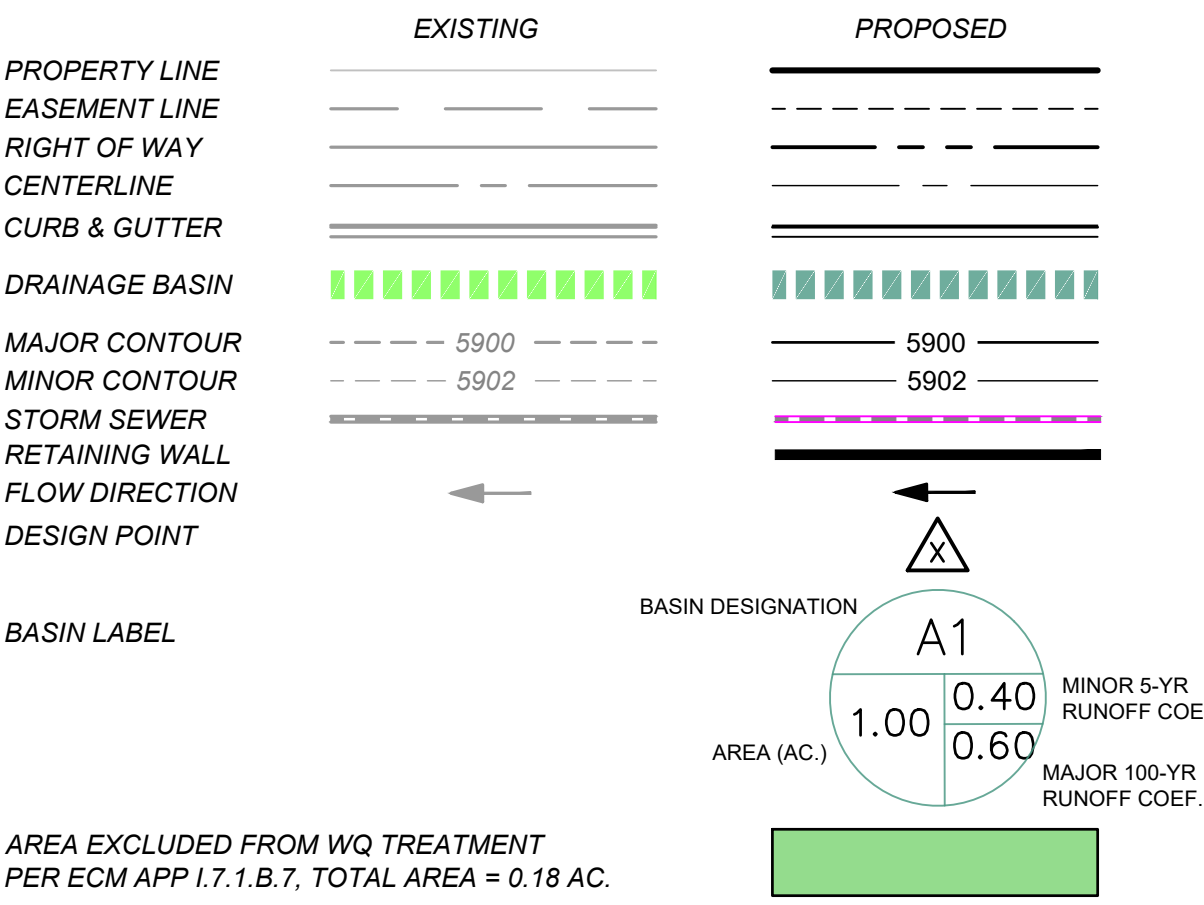
| SUMMARY RUNOFF TABLE |           |              |                      |                        |
|----------------------|-----------|--------------|----------------------|------------------------|
| BASIN                | AREA (ac) | % IMPERVIOUS | Q <sub>2</sub> (cfs) | Q <sub>100</sub> (cfs) |
| A1.1                 | 0.31      | 96.3         | 1.38                 | 2.50                   |
| A1.2                 | 0.07      | 78.1         | 0.23                 | 0.45                   |
| A2                   | 0.49      | 80.2         | 1.69                 | 3.24                   |
| A3                   | 0.28      | 75.8         | 1.01                 | 1.98                   |
| A4.1                 | 0.49      | 77.4         | 1.77                 | 3.44                   |
| A4.2                 | 0.17      | 85.5         | 0.69                 | 1.30                   |
| A5.1                 | 0.56      | 78.6         | 1.92                 | 3.73                   |
| A5.2                 | 0.66      | 76.0         | 2.30                 | 4.51                   |
| A6.1                 | 0.32      | 60.8         | 0.90                 | 1.93                   |
| A6.2                 | 0.46      | 81.7         | 1.60                 | 3.06                   |
| A7                   | 0.40      | 77.1         | 1.28                 | 2.49                   |
| AR1                  | 0.16      | 90.0         | 0.59                 | 1.10                   |
| AR2                  | 0.10      | 90.0         | 0.39                 | 0.72                   |
| AR3                  | 0.12      | 90.0         | 0.44                 | 0.83                   |
| AR4                  | 0.16      | 90.0         | 0.59                 | 1.10                   |
| AR5                  | 0.17      | 90.0         | 0.65                 | 1.21                   |
| AR6                  | 0.16      | 90.0         | 0.59                 | 1.10                   |
| B1.1                 | 0.96      | 79.7         | 3.13                 | 6.03                   |
| B1.2                 | 0.71      | 75.3         | 2.27                 | 4.45                   |
| B2.1                 | 0.31      | 81.1         | 1.19                 | 2.29                   |
| B2.2                 | 0.25      | 82.2         | 0.96                 | 1.83                   |
| B3.1                 | 0.41      | 76.8         | 1.44                 | 2.81                   |
| B3.2                 | 0.61      | 76.5         | 2.15                 | 4.20                   |
| B4                   | 0.42      | 69.7         | 1.38                 | 2.78                   |
| B5                   | 0.57      | 61.3         | 1.52                 | 3.22                   |
| B6                   | 0.70      | 80.1         | 2.39                 | 4.60                   |
| B7                   | 0.88      | 44.2         | 1.46                 | 3.56                   |
| BL1                  | 0.36      | 21.6         | 0.36                 | 1.27                   |
| BR1                  | 0.10      | 90.0         | 0.38                 | 0.72                   |
| BR2                  | 0.12      | 90.0         | 0.44                 | 0.83                   |
| BR3                  | 0.16      | 90.0         | 0.59                 | 1.10                   |
| BR4                  | 0.17      | 90.0         | 0.65                 | 1.21                   |
| BR5                  | 0.17      | 90.0         | 0.65                 | 1.21                   |
| BR6                  | 0.17      | 90.0         | 0.65                 | 1.21                   |
| BR7                  | 0.16      | 90.0         | 0.59                 | 1.10                   |
| BR8                  | 0.33      | 90.0         | 1.24                 | 2.31                   |
| BR9                  | 0.17      | 90.0         | 0.65                 | 1.21                   |
| BR10                 | 0.33      | 90.0         | 1.24                 | 2.31                   |
| O1                   | 0.18      | 20.0         | 0.18                 | 0.68                   |
| O2                   | 0.20      | 20.0         | 0.21                 | 0.77                   |
| O3                   | 0.15      | 69.2         | 0.48                 | 0.97                   |
| O4                   | 0.47      | 28.2         | 0.67                 | 2.03                   |
| O5                   | 0.16      | 70.4         | 0.54                 | 1.09                   |
| O6                   | 0.18      | 70.7         | 0.61                 | 1.23                   |
| P1                   | 0.17      | 26.4         | 0.22                 | 0.69                   |

TRACT A  
CIMARRON HILLS SOUTHEAST  
MIXED USE FILING NO. 1



KEY MAP  
SCALE: 1" = 350'

LEGEND



DESIGN POINT SUMMARY TABLE

| DESIGN POINT | CONTRIBUTING BASINS | ΣQ <sub>2</sub> (cfs) | ΣQ <sub>100</sub> (cfs) |
|--------------|---------------------|-----------------------|-------------------------|
| 1            | A1.1                | 1.38                  | 2.50                    |
| 2            | A1.2                | 0.23                  | 0.45                    |
| 3            | A2, AR1             | 2.28                  | 4.34                    |
| 4            | A3                  | 1.01                  | 1.98                    |
| 5            | A4.1, A4.2          | 2.48                  | 4.74                    |
| 6            | A4.2                | 0.69                  | 1.30                    |
| 7            | A5.1                | 1.92                  | 3.73                    |
| 8            | A5.2                | 2.30                  | 4.51                    |
| 9            | A6.1                | 0.90                  | 1.93                    |
| 10           | A6.2                | 1.60                  | 3.06                    |
| 11           | A7                  | 1.28                  | 2.49                    |
| 12           | B1.1                | 3.13                  | 6.03                    |
| 13           | B1.2                | 2.27                  | 4.45                    |
| 14           | B2.1                | 1.19                  | 2.29                    |
| 15           | B2.2                | 0.96                  | 1.83                    |
| 16           | B3.1, BR5           | 2.09                  | 4.02                    |
| 17           | B3.2                | 2.15                  | 4.20                    |
| 18           | B4                  | 1.38                  | 2.78                    |
| 19           | B5, BR8             | 2.76                  | 5.54                    |
| 20           | B6, BR9             | 3.04                  | 5.81                    |
| 21           | B7, BR10            | 2.70                  | 5.88                    |

DRAWN BY: CMD JOB DATE: 6/18/2026  
APPROVED: RDL JOB NUMBER: ----  
CAD DATE: 6/19/2026  
CAD FILE: J:\2025\2502477\CAD\DWG\CD\Drainage\Pr\_Drainage\_Map

BAR IS ONE INCH ON OFFICIAL DRAWINGS.  
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

| NO. | DATE | BY | REVISION DESCRIPTION |
|-----|------|----|----------------------|
|     |      |    |                      |
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|     |      |    |                      |

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1975 RESEARCH PARKWAY SUITE 160  
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HILLPOINTE APARTMENTS AT PETERSON  
HILLPOINTE, LLC.  
COLORADO SPRINGS, EL PASO COUNTY, COLORADO

FINAL DRAINAGE REPORT  
PROPOSED DRAINAGE MAP



6.1  
MH-A6  
Pipe-A6.

IN-A6.2  
IN-A6.1  
MH-A5

Subject: Highlight  
Page Label: 64  
Author: CDurham  
Date: 7/9/2026 2:50:04 PM  
Status:  
Color:   
Layer:  
Space:

N-A

1 MH-A6  
1 MH-A5.2  
1 MH-A4.2  
1 MH-A4.3  
1 MH-A5.1  
MH-A5.1  
MH-A4.1  
IN-A4.1

IN-A6.1  
MH-A5.1  
TEE-BLDG-4  
MH-A4.2  
IN-A5.2  
MH-A4.3  
IN-A5.1  
IN-A4.1  
IN-A4.2

Subject: Highlight  
Page Label: 64  
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5.2  
MH-A5.1

Pipe-A4.2M  
Pipe-A4.3M  
Pipe-A5.2I  
Pipe-A5.1M  
Pipe-A5.1I

Subject: Highlight  
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Author: CDurham  
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Pipe-A5.2I

MH-A5.1  
MH-A5.1  
MH-A4.1  
TEE-A4.4

Subject: Highlight  
Page Label: 64  
Author: CDurham  
Date: 7/9/2026 2:50:23 PM  
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Layer:  
Space:

MH-A5.1

Pipe-A5.2I  
Pipe-A5.1M  
Pipe-A5.1I  
Pipe-A4.1I  
Pipe-A4.2I

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Author: CDurham  
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Space:

Pipe-A5.1I

MH-A4.3  
IN-A5.1  
IN-A4.1

Subject: Highlight  
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Date: 7/9/2026 2:50:28 PM  
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Color:   
Layer:  
Space:

IN-A5.1

MH-A4  
IN-A5.  
MH-A4

Subject: Highlight  
Page Label: 64  
Author: CDurham  
Date: 7/9/2026 2:50:30 PM  
Status:  
Color:   
Layer:  
Space:

IN-

Pipe-A5.1M  
Pipe-A5.1I  
Pipe-A4.1I  
Pipe-A4.2I  
Pipe-A4 1M

Subject: Highlight  
Page Label: 64  
Author: CDurham  
Date: 7/9/2026 2:50:38 PM  
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Color:   
Layer:  
Space:

Pipe-A4.1I

Pipe-A5.1I  
Pipe-A4.1I  
Pipe-A4.2I  
Pipe-A4.1M  
Pipe-AT4

Subject: Highlight  
Page Label: 64  
Author: CDurham  
Date: 7/9/2026 2:50:50 PM  
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Color:   
Layer:  
Space:

Pipe-A4.2I

Pipe-A4.1I  
Pipe-AT4  
Pipe-A3I  
Pipe-A3M  
Pipe-A3.1M

Subject: Highlight  
Page Label: 64  
Author: CDurham  
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Color:   
Layer:  
Space:

Pipe-A3I

Pipe-A2.1I  
Pipe-A2.1M  
Pipe-A2I  
Pipe-A1.1I  
Pipe-A1.1M

Subject: Highlight  
Page Label: 64  
Author: CDurham  
Date: 7/9/2026 2:51:03 PM  
Status:  
Color:   
Layer:  
Space:

Pipe-A2I

MH-A5.1  
MH-A4.1  
IN-A4.1  
MH-A4.1

Subject: Highlight  
Page Label: 64  
Author: CDurham  
Date: 7/9/2026 2:51:06 PM  
Status:  
Color:   
Layer:  
Space:

MH-A4.1



|                               |                                                                                                                                                                                                                                                                           |         |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| MH-A4.1<br>IN-A4.1<br>MH-A4.1 | <b>Subject:</b> Highlight<br><b>Page Label:</b> 64<br><b>Author:</b> CDurham<br><b>Date:</b> 7/9/2026 2:51:15 PM<br><b>Status:</b><br><b>Color:</b> <br><b>Layer:</b><br><b>Space:</b>   | IN-A4.1 |
| TEE-BLDG<br>MH-A3<br>MH-A3    | <b>Subject:</b> Highlight<br><b>Page Label:</b> 64<br><b>Author:</b> CDurham<br><b>Date:</b> 7/9/2026 2:51:18 PM<br><b>Status:</b><br><b>Color:</b> <br><b>Layer:</b><br><b>Space:</b>   | MH-A3   |
| MH-A2.1<br>MH-A2.1<br>MH-A1   | <b>Subject:</b> Highlight<br><b>Page Label:</b> 64<br><b>Author:</b> CDurham<br><b>Date:</b> 7/9/2026 2:51:20 PM<br><b>Status:</b><br><b>Color:</b> <br><b>Layer:</b><br><b>Space:</b>   | MH-A2.1 |
| IN-A5.1<br>IN-A4.1<br>IN-A4.2 | <b>Subject:</b> Highlight<br><b>Page Label:</b> 64<br><b>Author:</b> CDurham<br><b>Date:</b> 7/9/2026 2:51:30 PM<br><b>Status:</b><br><b>Color:</b> <br><b>Layer:</b><br><b>Space:</b> | IN-A4.1 |
| IN-A4.1<br>IN-A4.2<br>MH-A3   | <b>Subject:</b> Highlight<br><b>Page Label:</b> 64<br><b>Author:</b> CDurham<br><b>Date:</b> 7/9/2026 2:51:33 PM<br><b>Status:</b><br><b>Color:</b> <br><b>Layer:</b><br><b>Space:</b> | IN-A4.2 |
| MH-A4.1<br>IN-A3<br>TEE-BLDG  | <b>Subject:</b> Highlight<br><b>Page Label:</b> 64<br><b>Author:</b> CDurham<br><b>Date:</b> 7/9/2026 2:51:36 PM<br><b>Status:</b><br><b>Color:</b> <br><b>Layer:</b><br><b>Space:</b> | IN-A3   |

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|          |                                                                                                 |       |
|----------|-------------------------------------------------------------------------------------------------|-------|
| EX-MH-AI | <b>Subject:</b> Highlight                                                                       | IN-A2 |
| IN-A2    | <b>Page Label:</b> 64                                                                           |       |
| IN-A1.1  | <b>Author:</b> CDurham                                                                          |       |
|          | <b>Date:</b> 7/9/2026 2:51:38 PM                                                                |       |
|          | <b>Status:</b>                                                                                  |       |
|          | <b>Color:</b>  |       |
|          | <b>Layer:</b>                                                                                   |       |
|          | <b>Space:</b>                                                                                   |       |

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|          |                                                                                                 |          |
|----------|-------------------------------------------------------------------------------------------------|----------|
| Pipe-B7I | <b>Subject:</b> Highlight                                                                       | Pipe-B7I |
| Pipe-B7M | <b>Page Label:</b> 67                                                                           |          |
| Pipe-B7I | <b>Author:</b> CDurham                                                                          |          |
| Pipe-B6M | <b>Date:</b> 7/9/2026 2:53:41 PM                                                                |          |
| Pipe-B6I | <b>Status:</b>                                                                                  |          |
| Pipe-B6M | <b>Color:</b>  |          |
|          | <b>Layer:</b>                                                                                   |          |
|          | <b>Space:</b>                                                                                   |          |

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|            |                                                                                                 |          |
|------------|-------------------------------------------------------------------------------------------------|----------|
| Pipe-B7I   | <b>Subject:</b> Highlight                                                                       | Pipe-B6I |
| Pipe-B6M   | <b>Page Label:</b> 67                                                                           |          |
| Pipe-B6I   | <b>Author:</b> CDurham                                                                          |          |
| Pipe-B2.3I | <b>Date:</b> 7/9/2026 2:53:45 PM                                                                |          |
| Pipe-B2.3M | <b>Status:</b>                                                                                  |          |
| Pipe-B2.3I | <b>Color:</b>  |          |
|            | <b>Layer:</b>                                                                                   |          |
|            | <b>Space:</b>                                                                                   |          |

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|            |                                                                                                   |            |
|------------|---------------------------------------------------------------------------------------------------|------------|
| Pipe-B6M   | <b>Subject:</b> Highlight                                                                         | Pipe-B2.3I |
| Pipe-B6I   | <b>Page Label:</b> 67                                                                             |            |
| Pipe-B2.3I | <b>Author:</b> CDurham                                                                            |            |
| Pipe-B2.3M | <b>Date:</b> 7/9/2026 2:53:49 PM                                                                  |            |
| Pipe-B4M   | <b>Status:</b>                                                                                    |            |
|            | <b>Color:</b>  |            |
|            | <b>Layer:</b>                                                                                     |            |
|            | <b>Space:</b>                                                                                     |            |

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|------------|---------------------------------------------------------------------------------------------------|------------|
| Pipe-B6I   | <b>Subject:</b> Highlight                                                                         | Pipe-B2.3M |
| Pipe-B2.3I | <b>Page Label:</b> 67                                                                             |            |
| Pipe-B2.3M | <b>Author:</b> CDurham                                                                            |            |
| Pipe-B4M   | <b>Date:</b> 7/9/2026 2:53:55 PM                                                                  |            |
| Pipe-B4I   | <b>Status:</b>                                                                                    |            |
|            | <b>Color:</b>  |            |
|            | <b>Layer:</b>                                                                                     |            |
|            | <b>Space:</b>                                                                                     |            |

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|------------|---------------------------------------------------------------------------------------------------|----------|
| Pipe-B2.3I | <b>Subject:</b> Highlight                                                                         | Pipe-B4I |
| Pipe-B4M   | <b>Page Label:</b> 67                                                                             |          |
| Pipe-B4I   | <b>Author:</b> CDurham                                                                            |          |
| Pipe-B3.2M | <b>Date:</b> 7/9/2026 2:53:58 PM                                                                  |          |
| Pipe-B3.2I | <b>Status:</b>                                                                                    |          |
|            | <b>Color:</b>  |          |
|            | <b>Layer:</b>                                                                                     |          |
|            | <b>Space:</b>                                                                                     |          |

Pipe-B4I  
Pipe-B3.2M  
**Pipe-B3.2I**  
Pipe-B3.1I  
Pipe-BT5

**Subject:** Highlight  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:54:04 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

Pipe-B3.2I

Pipe-B3.2M  
Pipe-B3.2I  
**Pipe-B3.1I**  
Pipe-BT5  
Pipe-B1 2M

**Subject:** Highlight  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:54:09 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

Pipe-B3.1I

Pipe-B3.1I  
Pipe-BT5  
**Pipe-B1.2M**  
Pipe-B2.1M  
Pipe-B2.1I

**Subject:** Highlight  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:54:14 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

Pipe-B1.2M

Pipe-B1.2M  
Pipe-B2.1M  
**Pipe-B2.1I**  
Pipe-B1.2I  
Pipe-B1 1I

**Subject:** Highlight  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:54:18 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

Pipe-B2.1I

Pipe-B2.1M  
Pipe-B2.1I  
**Pipe-B1.2I**  
Pipe-B1.1I  
Pipe-B1 2M

**Subject:** Highlight  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:54:22 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

Pipe-B1.2I

Pipe-B2.1I  
Pipe-B1.2I  
**Pipe-B1.1I**  
Pipe-B1.2M  
Pipe-B3 1M

**Subject:** Highlight  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:54:27 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

Pipe-B1.1I

Pipe-B1.2I  
Pipe-B1.1I  
Pipe-B1.2M  
Pipe-B3.1M  
Pipe-B5M

**Subject:** Highlight  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:54:31 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

Pipe-B1.2M

MH-B7  
MH-B7  
MH-B6

**Subject:** Highlight  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:54:35 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

MH-B7

MH-B6  
MH-B6  
MH-B2.3

**Subject:** Highlight  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:54:38 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

MH-B6

MH-B6  
MH-B6  
MH-B2.3  
MH-B2.2  
MH-B4

**Subject:** Highlight  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:54:40 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

MH-B2.3

MH-B6  
MH-B2.3  
MH-B2.2  
MH-B4  
MH-B4

**Subject:** Highlight  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:54:42 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

MH-B2.2

MH-B4  
MH-B4  
MH-B3.2

**Subject:** Highlight  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:54:44 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

MH-B4

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|            |                                                                                                 |         |
|------------|-------------------------------------------------------------------------------------------------|---------|
| MH-B3.2    | <b>Subject:</b> Highlight                                                                       | MH-B3.1 |
| MH-B3.1    | <b>Page Label:</b> 67                                                                           |         |
| MH-B3.1    | <b>Author:</b> CDurham                                                                          |         |
| TEE-BLDG-5 | <b>Date:</b> 7/9/2026 2:54:47 PM                                                                |         |
|            | <b>Status:</b>                                                                                  |         |
|            | <b>Color:</b>  |         |
|            | <b>Layer:</b>                                                                                   |         |
|            | <b>Space:</b>                                                                                   |         |

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|            |                                                                                                 |         |
|------------|-------------------------------------------------------------------------------------------------|---------|
| MH-B3.2    | <b>Subject:</b> Highlight                                                                       | MH-B3.1 |
| MH-B3.1    | <b>Page Label:</b> 67                                                                           |         |
| MH-B3.1    | <b>Author:</b> CDurham                                                                          |         |
| TEE-BLDG-5 | <b>Date:</b> 7/9/2026 2:54:49 PM                                                                |         |
|            | <b>Status:</b>                                                                                  |         |
|            | <b>Color:</b>  |         |
|            | <b>Layer:</b>                                                                                   |         |
|            | <b>Space:</b>                                                                                   |         |

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|------------|-------------------------------------------------------------------------------------------------|---------|
| MH-B3.1    | <b>Subject:</b> Highlight                                                                       | MH-B2.1 |
| TEE-BLDG-5 | <b>Page Label:</b> 67                                                                           |         |
| MH-B2.1    | <b>Author:</b> CDurham                                                                          |         |
| MH-B2.1    | <b>Date:</b> 7/9/2026 2:54:51 PM                                                                |         |
| MH-B2.2    | <b>Status:</b>                                                                                  |         |
|            | <b>Color:</b>  |         |
|            | <b>Layer:</b>                                                                                   |         |
|            | <b>Space:</b>                                                                                   |         |

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|---------|---------------------------------------------------------------------------------------------------|---------|
| MH-B2.1 | <b>Subject:</b> Highlight                                                                         | MH-B2.2 |
| MH-B2.1 | <b>Page Label:</b> 67                                                                             |         |
| MH-B2.2 | <b>Author:</b> CDurham                                                                            |         |
| MH-B1.2 | <b>Date:</b> 7/9/2026 2:54:54 PM                                                                  |         |
| MH-B1.2 | <b>Status:</b>                                                                                    |         |
|         | <b>Color:</b>  |         |
|         | <b>Layer:</b>                                                                                     |         |
|         | <b>Space:</b>                                                                                     |         |

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|---------|---------------------------------------------------------------------------------------------------|---------|
| MH-B2.1 | <b>Subject:</b> Highlight                                                                         | MH-B1.2 |
| MH-B2.2 | <b>Page Label:</b> 67                                                                             |         |
| MH-B1.2 | <b>Author:</b> CDurham                                                                            |         |
| MH-B1.2 | <b>Date:</b> 7/9/2026 2:54:56 PM                                                                  |         |
| MH-B1.1 | <b>Status:</b>                                                                                    |         |
|         | <b>Color:</b>  |         |
|         | <b>Layer:</b>                                                                                     |         |
|         | <b>Space:</b>                                                                                     |         |

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|---------|---------------------------------------------------------------------------------------------------|---------|
| MH-B2.2 | <b>Subject:</b> Highlight                                                                         | MH-B1.2 |
| MH-B1.2 | <b>Page Label:</b> 67                                                                             |         |
| MH-B1.2 | <b>Author:</b> CDurham                                                                            |         |
| MH-B1.1 | <b>Date:</b> 7/9/2026 2:54:59 PM                                                                  |         |
| MH-B2.1 | <b>Status:</b>                                                                                    |         |
|         | <b>Color:</b>  |         |
|         | <b>Layer:</b>                                                                                     |         |
|         | <b>Space:</b>                                                                                     |         |



MH-B1.2  
MH-B1.1  
MH-B3.1

Subject: Highlight  
Page Label: 67  
Author: CDurham  
Date: 7/9/2026 2:55:01 PM  
Status:  
Color:   
Layer:  
Space:

MH-B1.1

MH-B6  
IN-B7  
MH-B5.2

Subject: Highlight  
Page Label: 67  
Author: CDurham  
Date: 7/9/2026 2:55:05 PM  
Status:  
Color:   
Layer:  
Space:

IN-B7

MH-B5.2  
IN-B6  
IN-B2.3

Subject: Highlight  
Page Label: 67  
Author: CDurham  
Date: 7/9/2026 2:55:08 PM  
Status:  
Color:   
Layer:  
Space:

IN-B6

IN-B6  
IN-B2.3  
MH-B2.3

Subject: Highlight  
Page Label: 67  
Author: CDurham  
Date: 7/9/2026 2:55:10 PM  
Status:  
Color:   
Layer:  
Space:

IN-B2.3

IN-B2.3  
MH-B2.3  
MH-B3.2

Subject: Highlight  
Page Label: 67  
Author: CDurham  
Date: 7/9/2026 2:55:13 PM  
Status:  
Color:   
Layer:  
Space:

MH-B2.3

MH-B3.2  
IN-B4  
TEE-BLDG

Subject: Highlight  
Page Label: 67  
Author: CDurham  
Date: 7/9/2026 2:55:15 PM  
Status:  
Color:   
Layer:  
Space:

IN-B4

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|            |                                                                                                 |         |
|------------|-------------------------------------------------------------------------------------------------|---------|
| TEE-BLDG-5 | <b>Subject:</b> Highlight                                                                       | IN-B3.2 |
| IN-B3.2    | <b>Page Label:</b> 67                                                                           |         |
| IN-B3.1    | <b>Author:</b> CDurham                                                                          |         |
|            | <b>Date:</b> 7/9/2026 2:55:18 PM                                                                |         |
|            | <b>Status:</b>                                                                                  |         |
|            | <b>Color:</b>  |         |
|            | <b>Layer:</b>                                                                                   |         |
|            | <b>Space:</b>                                                                                   |         |

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|            |                                                                                                 |         |
|------------|-------------------------------------------------------------------------------------------------|---------|
| IN-B3.2    | <b>Subject:</b> Highlight                                                                       | IN-B3.1 |
| IN-B3.1    | <b>Page Label:</b> 67                                                                           |         |
| TEE-BLDG-5 | <b>Author:</b> CDurham                                                                          |         |
|            | <b>Date:</b> 7/9/2026 2:55:20 PM                                                                |         |
|            | <b>Status:</b>                                                                                  |         |
|            | <b>Color:</b>  |         |
|            | <b>Layer:</b>                                                                                   |         |
|            | <b>Space:</b>                                                                                   |         |

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|------------|-------------------------------------------------------------------------------------------------|---------|
| TEE-BLDG-5 | <b>Subject:</b> Highlight                                                                       | MH-B2.2 |
| MH-B2.2    | <b>Page Label:</b> 67                                                                           |         |
| MH-B1.1    | <b>Author:</b> CDurham                                                                          |         |
|            | <b>Date:</b> 7/9/2026 2:55:23 PM                                                                |         |
|            | <b>Status:</b>                                                                                  |         |
|            | <b>Color:</b>  |         |
|            | <b>Layer:</b>                                                                                   |         |
|            | <b>Space:</b>                                                                                   |         |

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|         |                                                                                                   |         |
|---------|---------------------------------------------------------------------------------------------------|---------|
| IN-B2.1 | <b>Subject:</b> Highlight                                                                         | IN-B1.2 |
| IN-B1.2 | <b>Page Label:</b> 67                                                                             |         |
| IN-B1.1 | <b>Author:</b> CDurham                                                                            |         |
|         | <b>Date:</b> 7/9/2026 2:55:27 PM                                                                  |         |
|         | <b>Status:</b>                                                                                    |         |
|         | <b>Color:</b>  |         |
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|         | <b>Space:</b>                                                                                     |         |

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|---------|---------------------------------------------------------------------------------------------------|---------|
| MH-B1.1 | <b>Subject:</b> Highlight                                                                         | IN-B2.1 |
| IN-B2.1 | <b>Page Label:</b> 67                                                                             |         |
| IN-B1.2 | <b>Author:</b> CDurham                                                                            |         |
|         | <b>Date:</b> 7/9/2026 2:55:30 PM                                                                  |         |
|         | <b>Status:</b>                                                                                    |         |
|         | <b>Color:</b>  |         |
|         | <b>Layer:</b>                                                                                     |         |
|         | <b>Space:</b>                                                                                     |         |

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|---------|---------------------------------------------------------------------------------------------------|---------|
| IN-B1.2 | <b>Subject:</b> Highlight                                                                         | IN-B1.1 |
| IN-B1.1 | <b>Page Label:</b> 67                                                                             |         |
| MH-B1.2 | <b>Author:</b> CDurham                                                                            |         |
|         | <b>Date:</b> 7/9/2026 2:55:33 PM                                                                  |         |
|         | <b>Status:</b>                                                                                    |         |
|         | <b>Color:</b>  |         |
|         | <b>Layer:</b>                                                                                     |         |
|         | <b>Space:</b>                                                                                     |         |

IN-B1.2  
IN-B1.1  
MH-B1.2  
MH-B2.1

**Subject:** Highlight  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:55:35 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

MH-B1.2

SW - Highlight (1)

meeting primary on-site use specifications (retention volume).  
tributary to the detention basin is 14.10 acres and  
x E are the Rational Method hydrologic calculations on  
the full site area (Basin P-6) at an assumed impervious  
FD-Detention spreadsheet with modified orifice plate  
developed site imperviousness than assumed. Addit  
notes a proposed forebay and trickle channel on the s  
nd trickle channel dimensions are provided in Appen  
dix storm detention, and the release rate is 40 hours for  
year storm events.

on the nearest boundary. The development lies within

**Subject:** SW - Highlight  
**Page Label:** 14  
**Author:** EPC Stormwater- Zachary  
**Date:** 7/8/2026 9:45:52 AM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

proposed forebay and trickle channe

SW - Textbox (1)

HR GREEN FOREBAY S  
FOREBAY AND TRICKLE CHANNEL  
calcs will be reviewed when  
provided with design  
OUTER DIMENSIONS  
2.83 FT

**Subject:** SW - Textbox  
**Page Label:** 76  
**Author:** EPC Stormwater- Zachary  
**Date:** 7/8/2026 9:35:52 AM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

Forebay and trickle channel calcs will be reviewed  
when provided with design

SW - Textbox with Arrow (2)

Time to Drain 97% of  
Inflow Volume (Hours)  
This does not meet the  
drain time requirements  
indicated in Senate Bill  
15-212. Please revise  
accordingly.

**Subject:** SW - Textbox with Arrow  
**Page Label:** 71  
**Author:** EPC Stormwater- Zachary  
**Date:** 7/8/2026 9:31:39 AM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

Time to Drain 97% of Inflow Volume (Hours): This  
does not meet the drain time requirements  
indicated in Senate Bill 15-212. Please revise  
accordingly.

not tributary to the detention basin is 14.10 acres and has 72.9%  
area E are the Rational Method hydrologic calculations and drainage  
on the full site area (Basin P-6) at an assumed imperviousness of  
FD-Detention spreadsheet with modified orifice plate is provided  
developed site imperviousness than assumed. Additional pond  
retention is proposed (detention and trickle channel) on the east side of  
y and trickle channel dimensions are provided in Appendix D. The  
operation detention, and the release rate is 40 hours for 100-year  
100-year storm event.  
Cost estimate also includes a section of  
maintenance access road and an orifice plate.  
within the project boundary. The development lies within the Sand  
and Drainage Basin, previously studied in the Sand Creek Drainage  
plan (April 1991, January 1993, revised March 1996) by Kansas  
Sand Creek is tributary to Sand Creek which ultimately drains to  
is removed from the off-site existing private lot and no retention  
exists ditch on the north side of US Highway 24 Off Flows under

**Subject:** SW - Textbox with Arrow  
**Page Label:** 14  
**Author:** EPC Stormwater- Zachary  
**Date:** 7/8/2026 9:45:56 AM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

Cost estimate also includes a section of  
maintenance access road and an orifice plate.

Text Box (7)

Add basin label back in

**Subject:** Text Box  
**Page Label:** 84  
**Author:** CDurham  
**Date:** 7/9/2026 9:08:57 AM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

Add basin label back in

6  
3  
7  
7  
3  
.

Provide slope for pipes

**Subject:** Text Box  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 9:49:37 AM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

Provide slope for pipes

Provide slope for pipes

**Subject:** Text Box  
**Page Label:** 64  
**Author:** CDurham  
**Date:** 7/9/2026 10:25:41 AM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

Provide slope for pipes

Pipe-AT3   TEE-BLDG-3   MH-AC  
Pipe-AT6   MH-37   TEE-8  
It appears highlighted pipes may have been put in backwards. Such as inverts for inlets (high/start end) match with MH inverts on CD's (Low/stop end)

**Subject:** Text Box  
**Page Label:** 64  
**Author:** CDurham  
**Date:** 7/9/2026 2:53:13 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

It appears highlighted pipes may have been put in backwards. Such as inverts for inlets (high/start end) match with MH inverts on CD's (Low/stop end)

Pipe-BT6   TEE-BLDG-6   MH-B  
It appears highlighted pipes may have been put in backwards. Such as inverts for inlets (high/start end) match with MH inverts on CD's (Low/stop end)

**Subject:** Text Box  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:55:53 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

It appears highlighted pipes may have been put in backwards. Such as inverts for inlets (high/start end) match with MH inverts on CD's (Low/stop end)

See CDs for lengths that do not match with design

**Subject:** Text Box  
**Page Label:** 64  
**Author:** CDurham  
**Date:** 7/9/2026 2:56:33 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

See CDs for lengths that do not match with design

See CDs for lengths that do not match with design

**Subject:** Text Box  
**Page Label:** 67  
**Author:** CDurham  
**Date:** 7/9/2026 2:56:44 PM  
**Status:**  
**Color:**   
**Layer:**  
**Space:**

See CDs for lengths that do not match with design