Pennsylvania Department of Environmental Protection

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

EROSION POTENTIAL ANALYSIS FOR CHAPTER 102 PERMITS

DISCHARGE POINT (DP) ID: **POA-1** ☐ **DURING** ☒ **FOLLOWING CONSTRUCTION**

Applicant Name: **Homer City Generation, L.P.** Project Site Name: **HCPP Pipeline**

CONVEYANCE INFORMATION

Type of Conveyance:

☐ Existing channel/swale or other flow path that will be partially improved

☒ Existing channel/swale or other flow path that will not be improved

Distance to Property Boundary: 320 ft Distance to Surface Water or Storm Sewer: 200 ft

FLOW PATH INFORMATION

The entire flow path is shown on: ☐ E&S ☐ PCSM Plan Drawings

Plan Drawing No(s): Exhibit A

Description of land cover of flow path: The flow path will consist of approximately 110-ft of meadow-good condition directly below the outfall and then approximately 90-ft of medium density woodland ground cover.

☒ Photographs of the flow path are attached.

Critical Section Data:

Peak discharge rate at 10-year/24-hour storm *(attach calculations or model output)*: 0.54 cfs

Slope: 15.5 % Soil type(s): ErB Soil Erodibility (k) factor: 0.32

Maximum Allowable Velocity: N/A fps Source:

Maximum Allowable Shear: 1.0 psf Source: Table 6.2 of PADEP E&S Manual

Calculated Maximum Velocity: N/A fps *(Attach calculations or model output)*

Calculated Maximum Shear: 0.83 psf *(Attach calculations or model output)*

Source of topographic data for flow path: USGS 2020 Contours

☐ The flow path will be improved as described below.

Affected Landowners: ☒ Stormwater discharges will not flow off-site.

Landowner Name	Address	Phone No.	Email

☐ Landowner consent has been or will be obtained for stormwater discharges.

Charles R. Kane, P.E. 03/06/2026

Name of Individual Completing Form Date

OFFSITE DISCHARGE ANALYSIS FOR POA-1

PROJECT: HCPP PIPELINE

PREPARED BY: SCT 03/03/2026

CHECKED BY: CRK 03/06/2026

Location ID	Sta.	Discharge (cfs)	Existing Surface Slope (ft/ft)	Manning's 'n'	Flow Bottom Width (ft)	Normal Depth (ft)	Calculated Shear Stress (lbs/ft^2)	Alloweable Shear Stress for Vegetated Surface (lbs/ft^2)
1	0+55	0.54	0.066	0.035	6.9	0.05	0.22	1.00
2	1+60	0.54	0.094	0.1	5.6	0.10	0.60	1.00
3	1+95	0.54	0.155	0.1	5.7	0.09	0.83	1.00

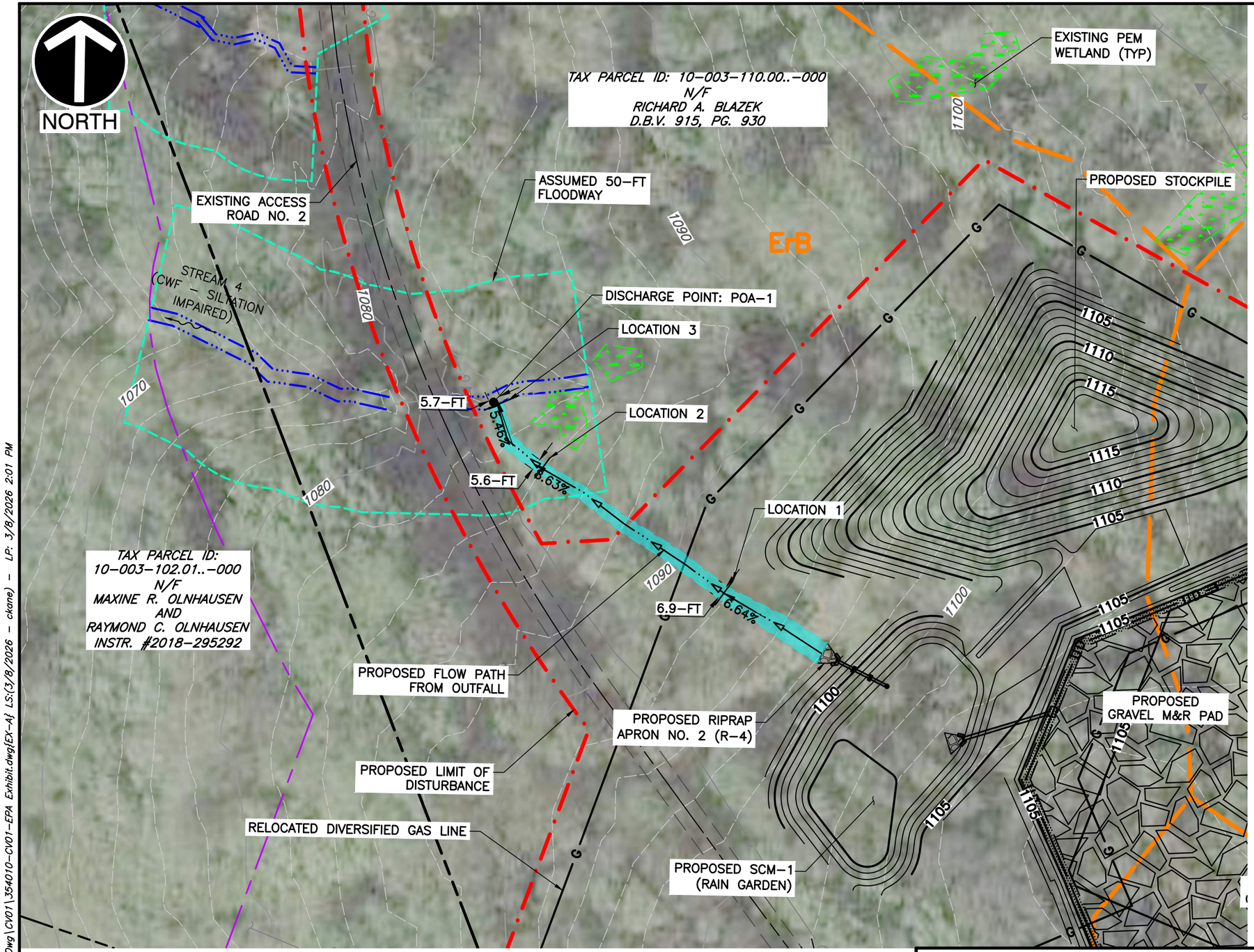
$$\tau_d = 62.4\ d \times s.$$

$$Q = \frac{1.486}{n} a r^{2/3} s^{1/2}$$

Notes:

1. Locations identified on exhibit A.
2. Manning's 'n' values for location 1 assumes meadow-good condition. Locations 2 and 3 assume forested areas.
3. Normal Depth calucated using Manning's equation assuming a rectangular cross-section flow area.

4. Allowable shear stress for locations 1 through 4 obtained from Table 6.2 of the E&S Manual for non-reinforced vegetation.



LEGEND

- EXISTING PROPERTY BOUNDARY
- EXISTING INDEX CONTOUR (10-FT)
- EXISTING INTERMEDIATE CONTOUR (2-FT)
- ASSUMED 50-FT FLOODWAY
- EXISTING STREAM
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED INDEX CONTOUR (10-FT)
- PROPOSED INTERMEDIATE CONTOUR (2-FT)
- PROPOSED GAS PIPELINE
- PROPOSED RIPRAP APRON
- PROPOSED FLOW PATH FROM OUTFALL
- SOIL BOUNDARY
- SOIL TYPE

REFERENCES

1. THE BASIS OF BEARING IS GRID NORTH DERIVED FROM POST PROCESSING METHODS USING THE NORTH AMERICAN DATUM OF 1983 (2011) STATE PLANE COORDINATES, PA SOUTH ZONE 3702. THE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 ELEVATIONS BASED ON GEOID18.
2. FIELD SURVEY BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. FROM OCTOBER 2024 THROUGH MAY 2025.
3. THE PROPERTY LINES SHOWN IS FOR REFERENCE ONLY FROM DEED PLOTS AND DOES NOT CONSTITUTE A BOUNDARY SURVEY.
4. CEC RETAINS TITLE TO ALL DRAWINGS, SPECIFICATIONS OR OTHER DOCUMENTS ("WORK PRODUCT") FURNISHED TO THE CLIENT AND INTENDED FOR USE IN CONNECTION WITH PROJECTS UNDER OUR AGREEMENT WITH THE CLIENT. THE CLIENT IS GRANTED A LIMITED LICENSE TO USE AND REPRODUCE THE WORK PRODUCT PREPARED BY CEC FOR USE IN THE EXECUTION OF THE PROJECT(S) UNDER THE AGREEMENT. THE WORK PRODUCT IS NOT TO BE USED BY THE CLIENT OR OTHER CONSULTANTS, CONTRACTORS, SUBCONTRACTORS, MATERIAL SUPPLIERS, OR OTHER THIRD PARTIES ON OTHER PROJECTS WITHOUT THE EXPRESS WRITTEN CONSENT OF CEC.
5. STREAMS SHOWN ARE A COMBINATION OF FIELD DATA COLLECTED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. ON VARIOUS DAYS FROM FEBRUARY 2025 THROUGH APRIL 2025 AND PA 305B STREAM DATA. ACCORDING TO PA CHAPTER 93 WATER QUALITY STANDARDS, PA STREAMS CLASSIFY THE TRIBUTATIES TO BLACKLICK CREEK AS COLD WATER FISHES (CWF). BLACKLICK CREEK IS CLASSIFIED AS TROUT STOCKED (TSF).
6. AERIAL IMAGERY OBTAINED FROM PLEX-EARTH. ACCESSED 04/2025; IMAGERY DATED 09/2019.

SCALE IN FEET
0 50 100

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HOMER CITY GENERATION, L.P.
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BURRELL, BLACKLICK AND CENTER TOWNSHIPS
INDIANA COUNTY, PENNSYLVANIA
EROSION POTENTIAL ANALYSIS
POA-1

DRAWN BY:	SCT	CHECKED BY:	CRK	APPROVED BY:	CRK	EXHIBIT:	A
DATE:	03/06/2026	DWG SCALE:	1"=50'	PROJECT NO:	354-010		

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HCPP Pipeline
Homer City Generation, L.P.
354-010
Erosion Potential Analysis – Point of Analysis (POA) 1

Critical flow path into Stream 4, facing Southeast.

Pennsylvania Department of Environmental Protection

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EROSION POTENTIAL ANALYSIS FOR CHAPTER 102 PERMITS

DISCHARGE POINT (DP) ID: **POA-2** ☐ **DURING** ☒ **FOLLOWING CONSTRUCTION**

Applicant Name: **Homer City Generation, L.P.** Project Site Name: **HCPP Pipeline**

CONVEYANCE INFORMATION

Type of Conveyance:

☐ Existing channel/swale or other flow path that will be partially improved

☒ Existing channel/swale or other flow path that will not be improved

Distance to Property Boundary: 490 ft Distance to Surface Water or Storm Sewer: 85 ft

FLOW PATH INFORMATION

The entire flow path is shown on: ☐ E&S ☐ PCSM Plan Drawings

Plan Drawing No(s): Exhibit B

Description of land cover of flow path: The flow path will consist of approximately 25-ft of meadow-good condition directly below the outfall and then approximately 60-ft of medium density woodland ground cover.

☒ Photographs of the flow path are attached.

Critical Section Data:

Peak discharge rate at 10-year/24-hour storm *(attach calculations or model output)*: 0.57 cfs

Slope: 19.5 % Soil type(s): ErB Soil Erodibility (k) factor: 0.32

Maximum Allowable Velocity: N/A fps Source:

Maximum Allowable Shear: 1.0 psf Source: Table 6.2 of PADEP E&S Manual

Calculated Maximum Velocity: N/A fps *(Attach calculations or model output)*

Calculated Maximum Shear: 0.92 psf *(Attach calculations or model output)*

Source of topographic data for flow path: USGS 2020 Contours

☐ The flow path will be improved as described below.

Affected Landowners: ☒ Stormwater discharges will not flow off-site.

Landowner Name	Address	Phone No.	Email

☐ Landowner consent has been or will be obtained for stormwater discharges.

Charles R. Kane, P.E. 03/06/2026

Name of Individual Completing Form Date

OFFSITE DISCHARGE ANALYSIS FOR POA-2

PROJECT: HCPP PIPELINE

PREPARED BY: SCT 03/03/2026

CHECKED BY: CRK 03/06/2026

Location ID	Sta.	Discharge (cfs)	Existing Surface Slope (ft/ft)	Manning's 'n'	Flow Bottom Width (ft)	Normal Depth (ft)	Calculated Shear Stress (lbs/ft^2)	Alloweable Shear Stress for Vegetated Surface (lbs/ft^2)
1	0+20	0.57	0.164	0.025	6	0.04	0.37	1.00
2	0+40	0.57	0.195	0.1	6.5	0.08	0.92	1.00
3	0+85	0.57	0.034	0.1	5.5	0.14	0.30	1.00

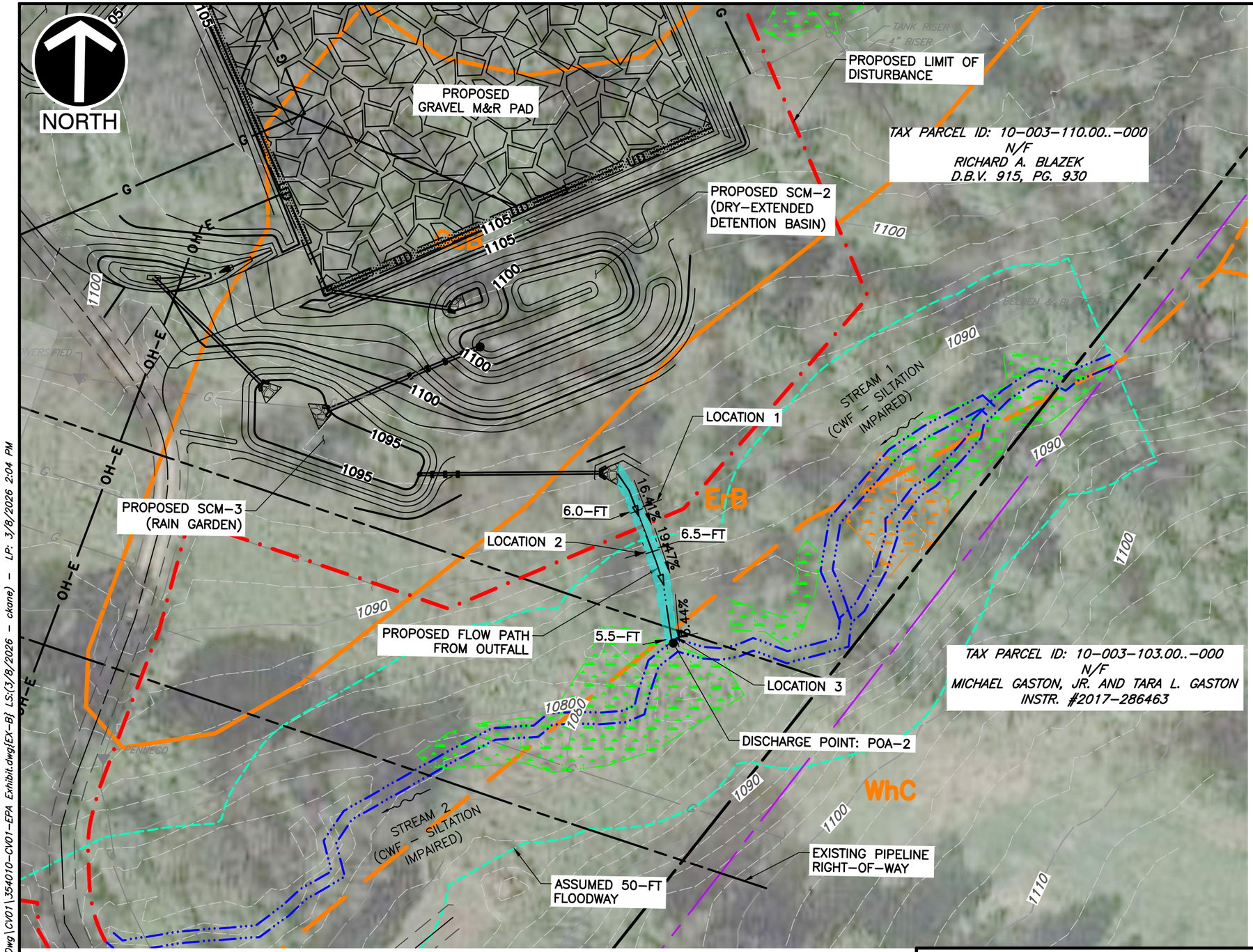
$$\tau_d = 62.4\ d \times s.$$

$$Q = \frac{1.486}{n} a r^{2/3} s^{1/2}$$

Notes:

1. Locations identified on exhibit A.
2. Manning's 'n' values for location 1 assumes meadow-good condition. Locations 2 and 3 assume forested areas.
3. Normal Depth calucated using Manning's equation assuming a rectangular cross-section flow area.

4. Allowable shear stress for locations 1 through 4 obtained from Table 6.2 of the E&S Manual for non-reinforced vegetation.



LEGEND

- EXISTING PROPERTY BOUNDARY
- 870 EXISTING INDEX CONTOUR (10-FT)
- EXISTING INTERMEDIATE CONTOUR (2-FT)
- ASSUMED 50-FT FLOODWAY
- EXISTING STREAM
- EXISTING PEM WETLAND
- PROPOSED LIMIT OF DISTURBANCE
- 870 PROPOSED INDEX CONTOUR (10-FT)
- PROPOSED INTERMEDIATE CONTOUR (2-FT)
- G PROPOSED GAS PIPELINE
- OH-E PROPOSED OVERHEAD POWERLINE
- PROPOSED RIPRAP APRON
- PROPOSED FLOW PATH FROM OUTFALL
- SOIL BOUNDARY
- UB SOIL TYPE

REFERENCES

1. THE BASIS OF BEARING IS GRID NORTH DERIVED FROM POST PROCESSING METHODS USING THE NORTH AMERICAN DATUM OF 1983 (2011) STATE PLANE COORDINATES, PA SOUTH ZONE 3702. THE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 ELEVATIONS BASED ON GEOID18.
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EROSION POTENTIAL ANALYSIS
POA-2

DRAWN BY:	SCT	CHECKED BY:	CRK	APPROVED BY:	CRK	EXHIBIT:	B
DATE:	03/06/2026	DWG SCALE:	1"=50'	PROJECT NO:	354-010		

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HCPP Pipeline
Homer City Generation, L.P.
354-010
Erosion Potential Analysis – Point of Analysis (POA) 2

Critical flow path into Stream 2, facing South.