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Innovative Solutions / Sustainable Results

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January 24, 2022

Mr. Robert F. Leslie, AICP
Director of Planning
Town of Bethlehem
Department of Economic Development & Planning
445 Delaware Avenue, 2nd Floor
Delmar, NY 12054

Re: MJ Engineering Comments on DSEIS
Albany Port District Commission – Port of Albany Expansion Project
Marmen-Welcon Tower Manufacturing Plant
Beacon Island Site, Town of Bethlehem Albany County

Dear Mr. Leslie:

This letter is in response to MJ Engineering's Review letter dated December 17, 2021, where they submitted their comments associated with the following documents for the above reference project.

- Fire Flow Analysis Memo, dated October 21 ,2021
- Port of Albany Expansion Site Plans, dated October 2021
- Offsite Infrastructure Improvements Plans, dated October 22, 2021
- Marmen Welcon Site: 700 Smith Blvd Site Plans, dated October 2021
- Normanskill Street Rehabilitation Plans, dated October 2021

The following information is respectfully submitted in response to each comment.

Fire Flow Analysis (McFarland Johnson Correspondence dated October 21, 2021)

1. The report indicates that the domestic demands of the four buildings will be 350 gpm. This is a noticeable increase from the prior reported domestic demand of 47 gpm. There should be discussion of what has caused this increase. Further, considering the increased water demand being reported now, it shall be confirmed whether the Town's water system can meet these conditions without adversely impacting system operation in the vicinity of the project site or elsewhere in the distribution system. At the present time, the Town has concerns regarding its ability to meet the water demands of the project without more substantial upgrades needing to be completed. Operational scenarios that need to be accounted for include average day, maximum day, peak hourly domestic demands as well as fire flow conditions. It will be critical to understand that the fire flow scenarios of this project do not compromise the fire flow demands of other large customers within the Town's distribution network.
   Response: The domestic water demand for the four buildings was calculated based on the projected number of daily occupants and factoring in the anticipated amount of water that each

individual would use. For reference we are including the table breakdown of each building's consumption, that was based on the 2014 NYS Design Standards for Intermediate Sized Wastewater Treatment Services:

Building	Occupants	Supply Flow (GPD)	Total Daily Demand (Gallons)	Estimated Average Demand (GPH)	Estimated Peak Demand (GPH)
A	170	31.25	5,312	147.55	590.2
B	85	31.25	2,656	73.77	295.08
C	50	31.25	1,562	43.38	173.52
D	50	31.25	1,562	43.38	173.52
			Total	**308 GPH**	**1,231 GPH**
				5.2 gpm	**20.5 gpm**

* The peak hourly use is based on 4 peak hours/day; two shift changes/day and two meal breaks/day.

Based on the summation of the estimated peak demand, the Town of Bethlehem will need to provide approximately 20.5 gpm to satisfy the plumbing demand.

2. The updated analysis utilizes the FM Global Property Loss Prevention Data Sheets (FMDS) to determine the estimated fire flow demands for the project and is based upon the automatic sprinkler demands. The four proposed buildings will be served by a single fire pump. The analysis indicates that it assesses the most demanding hydraulic condition of the four proposed buildings. The fire flow based upon the sprinkler demand has been calculated at 1,225 gpm with indication that during periodic testing, the fire pump demand increases to 1,837.5 gpm (150% of the demand flow of 1,225 gpm).
Response: If it is determined that the Town of Bethlehem waterworks network cannot support the flow required for testing the fire pump at 150%, NFPA 20 section 14.2.6.2.6 offers the following exception:

14.2.6.2.6 Where the maximum flow available from the water supply cannot provide a flow of 150 percent of the rated flow of the pump, the fire pump shall be operated at the greater of 100 percent of rated flow or the maximum flow demand of the fire protection system(s) maximum allowable discharge to determine its acceptance.

3. A fire flow has not been presented which is defined as the "flow rate of a water supply, measured at 20 pounds per square inch residual pressure, that is available for firefighting" pursuant to Section B102.1 of the Fire Code of New York State (FCNYS). Pursuant to Section B105.3 of the FCNYS, for buildings equipped with an approved automatic sprinkler system, the water supply shall be capable of providing the greater of (1) the automatic sprinkler demands, including hose stream allowance or (2) required fire flow. It is MJ's opinion that the fire flow calculation shall also be provided to understand which demand is greater and shall be utilized pursuant to Section B105.3 of the FCNYS.
Response: 2020 FCNYS Appendix B is an informational appendix only and is not part of the adopted code.

4. The fire flow calculation accounts for the demands of the fire suppression system without considering the demands associated with manual firefighting (i.e. hydrant flows). It is common practice to utilize the greater of the suppression system demand or the required fire flow for manual firefighting. The two are typically not additive because, for example, properly designed and installed full-coverage sprinkler systems should keep fires controlled, reducing the water needed for manual firefighting. However, this project, due to its scale and amount of exterior storage, there may be a need to determine hydrant demands utilizing ISO standards (or other acceptable means) to understand if the need arises, can manual firefighting be supported and if so, would it adversely impact the automatic fire sprinkler functions.

Response: The required fire flow requirement has been estimated according to the provisions of NFPA 1, Section 18.4 – Fire Flow Requirements for Buildings.

18.4.5.2 Buildings Other Than One- and Two-Family Dwellings. The minimum fire flow and flow duration for buildings other than one- and two-family dwellings shall be as specified in Table 18.4.5.1.2.

TABLE 18.4.5.1.2 Minimum Required Fire Flow and Flow Duration for Buildings

Fire Flow Area ft² (× 0.0929 for m²)					Fire Flow gpm† (× 3.785 for L/min)	Flow Duration (hours)
I(443), I(332), II(222)*	II(111), III(211)*	IV(2HH), V(111)*	II(000), III(200)*	V(000)*		
0–22,700	0–12,700	0–8200	0–5900	0–3600	1500	2
22,701–30,200	12,701–17,000	8201–10,900	5901–7900	3601–4800	1750	
30,201–38,700	17,001–21,800	10,901–12,900	7901–9800	4801–6200	2000	
38,701–48,300	21,801–24,200	12,901–17,400	9801–12,600	6201–7700	2250	
48,301–59,000	24,201–33,200	17,401–21,300	12,601–15,400	7701–9400	2500	
59,001–70,900	33,201–39,700	21,301–25,500	15,401–18,400	9401–11,300	2750	
70,901–83,700	39,701–47,100	25,501–30,100	18,401–21,800	11,301–13,400	3000	3
83,701–97,700	47,101–54,900	30,101–35,200	21,801–25,900	13,401–15,600	3250	
97,701–112,700	54,901–63,400	35,201–40,600	25,901–29,300	15,601–18,000	3500	
112,701–128,700	63,401–72,400	40,601–46,400	29,301–33,500	18,001–20,600	3750	
128,701–145,900	72,401–82,100	46,401–52,500	33,501–37,900	20,601–23,300	4000	4
145,901–164,200	82,101–92,400	52,501–59,100	37,901–42,700	23,301–26,300	4250	
164,201–183,400	92,401–103,100	59,101–66,000	42,701–47,700	26,301–29,300	4500	
183,401–203,700	103,101–114,600	66,001–73,300	47,701–53,000	29,301–32,600	4750	
203,701–225,200	114,601–126,700	73,301–81,100	53,001–58,600	32,601–36,000	5000	
225,201–247,700	126,701–139,400	81,101–89,200	58,601–65,400	36,001–39,600	5250	
247,701–271,200	139,401–152,600	89,201–97,700	65,401–70,600	39,601–43,400	5500	
271,201–295,900	152,601–166,500	97,701–106,500	70,601–77,000	43,401–47,400	5750	
Greater than 295,900	Greater than 166,500	106,501–115,800	77,001–83,700	47,401–51,500	6000	
		115,801–125,500	83,701–90,600	51,501–55,700	6250	
		125,501–135,500	90,601–97,900	55,701–60,200	6500	
		135,501–145,800	97,901–106,800	60,201–64,800	6750	
		145,801–156,700	106,801–113,200	64,801–69,600	7000	
		156,701–167,900	113,201–121,300	69,601–74,600	7250	
		167,901–179,400	121,301–129,600	74,601–79,800	7500	
		179,401–191,400	129,601–138,300	79,801–85,100	7750	
		Greater than 191,400	Greater than 138,300	Greater than 85,100	8000	

*Types of construction are based on NFPA 220.

†Measured at 20 psi (139.9 kPa).

For Type II (0,0,0) construction and building area greater than 138,300 ft^2, the required flow is 8,000 gpm and the flow duration is 4 hrs.

Per paragraph 18.4.5.2.1 the required fire flow shall be reduced by 75 percent when the building is protected throughout by an approved automatic sprinkler system. The resulting fire flow shall not be less than 1000 gpm (3785 L/min).

Based on the information above, the adjusted Fire Flow at 20 psi is 2,000 gpm.

5. It shall be confirmed that the Town's water distribution system is capable of handling both the expected "normal" demand of fire pump of 1,225 gpm and test pump rate of 1,837 gpm.
Response: Refer to comment on Item 2 above.

6. The report references NFPA 13 which speaks to domestic water demands being included in fire flow demands. It is MJ's belief that the NFPA standard applies to the sizing of the water service from the public main to the building being services. If it is the designer's position that domestic demands do not need to be accounted for in the analysis of impacts on operations of the public water system, MJ is of the opinion that it is not the intent of NFPA 13. All water demands imposed on the Town's water system should be assessed especially if there is marginal performance when considering any reasonable demands the project may impose on the Town's water system. Such analysis will present a worst-case scenario to understand and assess if the Town's water system can continually function under an adverse event.
Response: It is McFarland Johnson's opinion that the worst case-case scenario noted is a fire event or testing of the fire pump. If there is a fire event no domestic water usage will occur as the buildings will get evacuated. The fire pump testing can be coordinated with the Town of Bethlehem Water Department and occur at times that will not negatively impact the integrity of the existing network. As noted on items 2 and 5, if it is determined that the fire pump 150% flow cannot be accommodated by the Town, the testing may occur at the calculated hydraulic system demand.

Site Plans – Port of Albany Expansion Site

GN-01: General Notes

7. Provide a general note indicating that all work subject to Section 128-49 of the Town Zoning shall be certified by designated professionals pursuant to Section 128-49(f)(2)(I).
Response: This note has been added to project's general notes as Note #20.

SU-01: Survey Plan

8. No comments.

DE-01: Existing Conditions and Demolition Plans

9. Show the approximate boundary of any flood plains or flood ways (flood hazard areas). This shall be shown on all proposed plans.

Response: The FEMA flood plain and flood way boundaries has been added to the Existing Conditions and Demolition Plan, Sheet DE-01. The entire proposed site is located within the Flood Plain including the proposed development within the National Grid property. To avoid cluttering the plans, the flood plain and floodway hatching has been turned off on all the other plans with only the outline shown on the overall site plan, SP-00.

10. The plan notes the removal of an abandon 8-inch water line. The full extent of this removal does not appear to be shown. In the event this existing main requires disconnection from a Town of Bethlehem water main, the main to be removed shall be removed up to the Town water main. Additional narrative regarding means and methods of abandonment shall be provided.
Response: The site base mapping has been updated to reflect the information provided by the project survey, noting that this line is the centerline for a 15' wide easement for a waterline; the existing 8' water line has been abandoned and capped off at the meter pit along Normanskill Street north of the proposed site.

11. The plan notes the temporary and permanent impacts to Waters of the U.S. Any approval that may be offered by the Town should be conditioned upon receipt of any required permits for these planned disturbances.
Response: Duly noted.

SP-00: Site Plan Overall

12. The bulk table notes that the project will provide substantially more parking spaces than what is required by the Town Zoning Code. The Planning Board may consider requesting that the applicant reduce the number of parking spaces proposed, bank them depending upon project need or provide a narrative description justifying the excessive parking being proposed.
Response: The bulk table notes on SP-00 have been updated to justify the total number of proposed parking spaces (354). Based on the total number of employees when the plant is at full capacity (550 total employees) the larges shift will includes 180 employees with the largest shift change involving 320 employees. Individual building parking demands from Marmen Welcon have been provided below:
    - **Building A = 168 spaces**
    - **Building B = 87 spaces**
    - **Building C & D = 100 spaces total**
    - **Total Operator Requested Spaces = 355**

13. The following comments are specific to the overall site access and compliance with the Fire Code of New York State (FCNYS):

    a. Buildings or facilities exceeding 30-feet or three stories in height shall have not fewer than two means of fire apparatus access for each structure pursuant to Section D104.1. The overall site has two access points, one from NYS Rt 144 and a second from Normanskill Street. However, the NYS Rt 144 access appears to terminate in the parking area, west of the primary facility and does not access it. It appears that a second means of access is required.

b. Where the vertical distance between the grade plane and the highest roof surface exceeds 30 feet, approved aerial fire apparatus access roads shall be provided pursuant to Section D105.1. The access shall be a minimum of 26-feet in width per Section D105.2 and shall be located not less than 15-feet and not greater than 30-feet from the building, and shall be positioned parallel to one entire side of the building pursuant to Section D105.3. In reviewing the plans, it appears the Plate Preparation and Welding Building and Blast-Metallization-Paint Building may not have the required aerial apparatus access.
c. It is recommended that an emergency vehicle maneuvering plan be provided and should include the largest vehicle of the responding fire department and/or potential mutual aid partners.
d. Any designated fire lanes shall be shown on the plans and coordinated with the responding agency(s).

Response: The site plan has been updated to show additional emergency access gates from the west site of the site into the secure manufacturing yard in 3 locations which were discussed with the Selkirk Fire department and Town staff. Two new fire hydrants have been added to the design plans based on a coordination meeting with the Town and Selkirk Fire district. The material storage areas proposed by the operator has also been modified to remove any storage adjacent to the proposed building provided wide access aisle around each building. As part of the SEQR review a detailed response package was provided to the Town/Fire District, which included "Fire Code Review" overall site plan with the 360-degree access for an aerial fire truck shown as well as the location of all proposed fire hydrants highlighted.

14. The applicant shall respond to the forthcoming letter from the Town Building Department and responding fire department.
Response: See response to Comment #13 above.

15. There appears to be an inadequate number of accessible parking spaces in the two proposed parking lots. The office parking has 161 spaces within three accessible spaces. Pursuant to Table 1106.1 of the Building Code of New York State (BCNYS), when there are between 151 and 200 spaces, six accessible spaces shall be provided. Similar for the parking lot to the north. There are 204 parking spaces within six accessible spaces. When there are between 201 and 300 parking spaces, seven accessible spaces shall be provided.
Response: Total parking spaces was 365 (now 355), which is between 300 and 400 spaces for the proposed site requiring 8 total accessible spaces in accordance with the ADA and 9 total spaces were provided. Additional justification will be provided in the bulk table. The parking lot area is considered a single lot for all 4 buildings on site with three employee entrances from the parking lot. As noted in comments response #12 above, the parking is shared by all buildings for a required total parking of 355 spaces.

16. The plan notes a package wastewater treatment plant. The plan set includes no design information and shall be furnished as part of subsequent submissions. This system is subject to the review and approval of the New York State Dept of Environmental Conservation (NYSDEC) under a wastewater SPDES permit. Provide a copy of the Engineer's Report that supports the design of this system for review by the Town.

Response: New utility detail sheets, UT-14 and UT-15 have been added to the final design plan set which provide the design parameters, performance specifications, process diagram and general arrangement for the proposed Package Wastewater Treatment Plant.

SP-01: Site Plan

17. Show any proposed traffic regulatory signs which shall include reference to the appropriate MUTCD designation.
Response: Proposed signage within the NYSDOT are shown on the Off-site Highway Work Permit plans. Other then the signage at the intersection with NYS Route 144, no additional traffic regulatory signage is currently proposed on this plan.

SP-02: Site Plan

18. The accessible route servicing the three accessible spaces near Building A will require maneuvering through the parking lot and behind parked vehicles. Provide a dedicated accessible route that is not shared with vehicular traffic that includes all necessary accessible features.
Response: The proposed 3 accessible parking spaces at the southern end are the closest parking spaces to the Building A main entrance. This is the only non-emergency entrance to Building A from the non-secure side. These spaces will have an accessible route behind the spaces to the front sidewalk; however, do not require crossing a drive aisle.

19. The accessible route servicing the three accessible spaces west of Building B will require maneuvering through the parking lot and behind parked vehicles. Provide a dedicated accessible route that is not shared with vehicular traffic that includes all necessary accessible features.
Response: Accessible parking spaces associated with the Building B entrance have been relocated to avoid the need for the accessible route to cross the parking lot drive aisle. There is only one non-emergency entrance to Building B, through main gate turnstile with sidewalk to the Building B main entrance. This gate entrance will have a separate accessible swing gate entrance to supplement the main turnstile for use by handicap employees.

20. It is unclear where the defined accessible entrance servicing the accessible spaces near Building A is located. If there is more than one accessible entrance to Building A, accessible parking spaces shall be dispersed and located near the accessible entrances pursuant to Section 1106.6 of the BCNYS.
Response: See response to comment #18.

21. It is unclear where the defined accessible entrance servicing the accessible spaces west of Building B is located. If there is more than one accessible entrance to Building B, accessible parking spaces shall be dispersed and located near the accessible entrances pursuant to Section 1106.6 of the BCNYS.
Response: See response to Comment #19.

22. The three accessible spaces west of Building B are remote to any building. Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an

accessible building entrance. In parking facilities that do not serve a particular building, accessible parking spaces shall be located on the shortest route to an accessible pedestrian entrance to the parking facility pursuant to Section 1106.6 of the BCNYS.
Response: See response to Comment #19.

23. To access Building A or B from the three accessible spaces near Building A or three accessible spaces west of Building B, it appears routing through security entrances will be necessary. Where restricted entrances are provided to a building or facility, at least one restricted entrance to the building or facility shall be accessible. Identify where the accessible restricted entrance(s) will be located.
Response: See response to Comment #18.

24. Show the location and type of any required accessible curb ramps along the accessible route from the accessible parking spaces to the accessible entrance(s) of the building(s).
Response: Curb ramps have been called out on the site plans.

25. Show the location of the required signage at the accessible spaces and aisles.
Response: Details related to the accessible parking spaces and signage have been added to drawing SP-07.

26. Show any proposed traffic regulatory signs which shall include reference to the appropriate MUTCD designation.
Response: Stop bars and stop signs have been added to the plan with applicable MUTCD designations included within the detail on drawing SP-08. No additional traffic regulatory signs are proposed.

<u>SP-03: Site Plan</u>

27. It is unclear where the defined accessible entrance servicing the accessible spaces west of Building B and C are located. If there is more than one accessible entrance to Building B or C, accessible parking spaces shall be dispersed and located near the accessible entrances pursuant to Section 1106.6 of the BCNYS.
Response: The proposed 3 accessible parking spaces at the northern end are the closest parking spaces to the Building C public entrance. There is only one non-emergency entrance to Building C from the public side, through the main gate turnstile with sidewalk to the Building C main entrance. This gate entrance will have a separate accessible swing gate entrance to supplement the main turnstile for use by handicap employees, see detail on drawing SP-09. These spaces will have an accessible route behind the spaces to the front sidewalk; however, do not require crossing a drive aisle.

28. The three accessible spaces west of Building B and C are remote these buildings. Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible building entrance. In parking facilities that do not serve a particular building, accessible parking spaces shall be located on the shortest route to an accessible pedestrian entrance to the parking facility pursuant to Section 1106.6 of the BCNYS.

Response: See response to Comments #19 and #28.

29. To access Building B or C from the accessible spaces located west of Building B and C, it appears routing through security entrances will be necessary. Where restricted entrances are provided to a building or facility, at least one restricted entrance to the building or facility shall be accessible. Identify where the accessible restricted entrance(s) will be located.
Response: See response to Comments #19 and #28.

30. Show the location and type of any required accessible curb ramps along the accessible route from the accessible parking spaces to the accessible entrance(s) of the building(s).
Response: Curb ramps have been called out on the site plans.

31. Show the location of the required signage at the accessible spaces and aisles.
Response: Details related to the accessible parking spaces and signage have been added to drawing SP-07.

32. Show any proposed traffic regulatory signs which shall include reference to the appropriate MUTCD designation.
Response: Stop bars and stop signs have been added to the plan with applicable MUTCD designations within the detail. No additional traffic regulatory signs are proposed.

SP-04: Site Plan

33. If the perimeter security fence encompasses the entire site and along the waterfront, it is recommended that an access gate be provided adjacent to the stormwater outlet ES1 for maintenance.
Response: The security fence does not extend along the Hudson River and access to ES1 is available.

SP-05: Site Plan

34. If the perimeter security fence encompasses the entire site and along the waterfront, it is recommended that an access gate be provided adjacent to the stormwater outlet ES2 for maintenance.
Response: The security fence does not extend along the Hudson River and access to ES2 is available.

SP-06: Site Plan

35. If the perimeter security fence encompasses the entire site and along the waterfront, it is recommended that an access gate be provided adjacent to the stormwater outlet ES3 and ES 4 for maintenance.
Response: The security fence does not extend along the Hudson River and access to ES3 and ES4 is available.

SP-07: Site Details

36. The general detail provided for the gravity wall has notation that the actual design shall have plans stamped and sealed by a licensed professional engineer. Provide a complete design of this system now as the Town will not accept it as a delegated design for completion as part of the building permit process.
Response: The proposed segmental block retaining wall profile and a typical section from an acceptable manufacturer have been added to the site plans as drawing PR-02. The contractor shall provide a PE stamped submittal for the retaining wall system that meets the specifications required by the project's contract documents.

TP-01 & TP-02: Typical Section

37. The proposed road cross sections are for either improvements within the NYSDOT right-of-way or the private drive associated with the project. Since these are private roads, they are not required to meet the Town of Bethlehem standards specific to public roadways
Response: Duly Noted.

PR-01: Entrance Road Profile

38. No comments

GR-00: Grading, Drainage, Notes and Index

39. No comments

GR-01: Grading and Drainage

40. Show the location, size and slope of any roof leaders from Building A that are to connect into the site drainage system.
Response: The location of the proposed downspouts and their connection to the drainage system has been added to the design plans.

41. For consistency, correct the numbering for Stormwater Retention Pond #1 such that it matches the numerical designation in the SWPPP/Drainage Report.
Response: Stormwater Pond numbering has been updated to match the SWPPP/Drainage Report.

42. The south forebay of Stormwater Retention Pond #1 has multiple overlapping contour lines and needs to be corrected for clarity.
Response: The grading for the ponds has been modified to add an aquatic bench and also corrected any inconsistencies with the contour lines.

43. Provide labels on the contours within the forebay and permanent pool of Stormwater Retention Pond #1 such that its design may be checked against the HydroCAD model.
Response: The additional stormwater pond information including design elevations, outlet structures, overflow spillways and reverse slope pipes have been added to the section view details on drawing GR-14.

44. Show all outlet devices (weirs, pipes, structures) associated with Stormwater Retention Pond #1 that corresponds with the HydroCAD model.
Response: See response to Comment #43.

45. Show the location of the required sign for Stormwater Retention Pond #1 pursuant to Section 3.5 of the New York State Stormwater Management Design Manual (NYSSMDM), A corresponding detail shall be provided.
Response: Stormwater management signage was added to the site layout plans, with details provided on drawing SP-08.

46. Show the location of the required warning sign for Stormwater Retention Pond #1 pursuant Section 6.1.6 of the NYSSMDM. The warning signs must be posted prohibiting swimming, wading, and skating, warning of possible contamination or pollution of pond water, and indicating maximum depth of pond.
Response: Stormwater management signage was added to the site layout plans, with details provided on drawing SP-08.

47. A fixed vertical sediment depth marker should be installed in the forebay of Stormwater Retention Pond #1 pursuant to Section 6.1.3 of the NYSSMDM to measure sediment deposition over time. Show the location of the sediment marker.
Response: Depth gauges have been added to the site layout plans for Ponds 1 and 2.

48. The proposed grades for Stormwater Retention Pond #1 do not appear to show the aquatic bench pursuant to Section 3.1.5 of the NYSSMDM. Clearly identify its location, ensuring it extend 15-feet inward from the normal shoreline.
Response: A 10-foot wide aquatic bench around both the Forebay and Permanent Pool was incorporated into the Retention pond #1 design.

49. Provide the required soil testing within the confines of the Stormwater Retention Pond #1 which includes deep hole test pit and infiltration tests.
Response: The pond has been converted to a P-1 micropool extended detention pond. No infiltration is assumed in the design calculations for this pond. Ground water elevations around the site varied from elevation 0' to 2' according to the geotechnical borings.

50. Provide a landscaping plan for Stormwater Retention Pond #1 and its buffer to indicate how aquatic and terrestrial areas will be vegetatively stabilized and established.
Response: The final design plans include landscaping plans for the entire site including the stormwater pond areas.

51. Provide a 12-foot wide maintenance access for Stormwater Retention Pond #1 that extends to the forebay, and outlet structure pursuant to Section 6.1.6 of the NYSSMDM. The access shall permit vehicles to turn around.
Response: A gravel maintenance access driveway was added to the back side of Pond #1.

<u>GR-02: Grading and Drainage</u>

52. Show the location, size and slope of any roof leaders from Building A and B that are to connect into the site drainage system.
Response: The location of the proposed downspouts and their connection to the drainage system has been added to the design plans.

53. For consistency, correct the numbering for Stormwater Retention Pond #2 such that it matches the numerical designation in the SWPPP/Drainage Report.
Response: Stormwater Pond numbering has been updated to match the SWPPP/Drainage Report.

54. Provide labels on the contours within the forebay and permanent pool of Stormwater Retention Pond #2 such that its design may be checked against the HydroCAD model.
Response: The proposed surface is graded in accordance with the HydroCAD model and additional contouring labeling around the plans has been provided on GR-01 & GR-02 as well as additional elevation information in the pond details on GR-14.

55. Show all outlet devices (weirs, pipes, structures) associated with Stormwater Retention Pond #2 that corresponds with the HydroCAD model.
Response: The additional stormwater pond information including design elevations, outlet structures, overflow spillways and reverse slope pipes have been added to the section view details on drawing GR-14.

56. Show the location of the required sign for Stormwater Retention Pond #2 pursuant to Section 3.5 of the New York State Stormwater Management Design Manual (NYSSMDM), A corresponding detail shall be provided.
Response: Stormwater management signage was added to the site layout plans, with details provided on drawing SP-08.

57. Show the location of the required warning sign for Stormwater Retention Pond #1 pursuant Section 6.1.6 of the NYSSMDM. The warning signs must be posted prohibiting swimming, wading, and skating, warning of possible contamination or pollution of pond water, and indicating maximum depth of pond.
Response: Stormwater management signage was added to the site layout plans, with details provided on drawing SP-08.

58. A fixed vertical sediment depth marker should be installed in the forebay of Stormwater Retention Pond #2 pursuant to Section 6.1.3 of the NYSSMDM to measure sediment deposition over time. Show the location the sediment marker.
Response: Depth gauges have been added to the site layout plans for Ponds 1 and 2.

59. The proposed grades for Stormwater Retention Pond #2 do not appear to show the aquatic bench pursuant to Section 3.1.5 of the NYSSMDM. Clearly identify its location, ensuring it extend 15’ inward from the normal shoreline.
Response: A 10-foot wide aquatic bench around both the Forebay and Permanent Pool was incorporated into the Retention pond #1 design.

60. Provide a landscaping plan for Stormwater Retention Pond #2 and its buffer to indicate how aquatic and terrestrial areas will be vegetatively stabilized and established.
Response: The final design plans include landscaping plans for the entire site including the stormwater pond areas.

61. Provide a 12-wide wide maintenance access for Stormwater Retention Pond #2 that extends to the forebay, and outlet structure pursuant to Section 6.1.6 of the NYSSMDM. The access shall permit vehicles to turn around.
Response: A gravel maintenance access driveway was added to the back side of Pond #1.

GR-03: Grading and Drainage

62. Show the location, size and slope of any roof leaders from Building C and D that are to connect into the site drainage system.
Response: The location of the proposed downspouts and their connection to the drainage system has been added to the design plans.

63. ES5 appears to have a pipe invert of 8.64 which does not correspond to the existing and/or proposed grade lines. It appears additional grading will be required to allow this invert to work.
Response: ES5 has been modified since the previous submission. However, all outlets shown correspond to the existing and/or proposed grade.

64. On the Network 7 (2 of 2) profile, show the location of the in-line stormwater filters located between DS7-1 and ES7.
Response: The stormwater water quality structures have been added to the profiles.

GR-04: Grading and Drainage

65. Show the location, size and slope of any roof leaders from Building A that are to connect into the site drainage system.
Response: The proposed building has a single slope roof pitched to the west. The east side of building A that is shown on this plan will not have any downspouts or roof leaders.

66. The proposed tree clearing limits down stream of ES1 needs to be modified to account for any work to install the medium stone line outlet protection to the waterline.
Response: The tree clearing limits on DE-01 have been updated.

GR-05: Grading and Drainage

67. Show the location, size and slope of any roof leaders from Building A that are to connect into the site drainage system.
Response: The proposed building has a single slope roof pitched to the west. The east side of building A that is shown on this plan will not have any downspouts or roof leaders.

68. ES2 appears to have a pipe invert of 7.7 which does not correspond to the existing and/or proposed grade lines. It appears additional grading will be required to allow this invert to work.
Response: ES2 has been modified since the previous submission. However, all outlets shown correspond to the existing and/or proposed grade.

69. The proposed tree clearing limits down stream of ES2 needs to be modified to account for any work to install the medium stone line outlet protection to the waterline.
Response: The tree clearing limits on DE-01 have been updated.

GR-06: Grading and Drainage

70. Show the location, size and slope of any roof leaders from Building D that are to connect into the site drainage system.
Response: The location of the proposed downspouts and their connection to the drainage system has been added to the design plans.

71. ES4 appears to have a pipe invert of 8.15 which does not correspond to the existing and/or proposed grade lines. It appears additional grading will be required to allow this invert to work.
Response: ES4 has been modified since the previous submission. However, all outlets shown correspond to the existing and/or proposed grade.

GR-07: Drainage Tables

72. No comments.

GR-08: Drainage Profiles

73. On the Network 1 (4 of 4) profile, the invert of ES2 at 7.7 for the 48-inch pipe appears to be below the grade line. It appears additional grading will be required to allow this invert to work.
Response: ES2 has been modified since the previous submission. However, all outlets shown correspond to the existing and/or proposed grade.

GR-07: Drainage Tables

74. Correct the sheet number and title to match other plan sheets showing profiles.
Response: The drainage profile drawings names and sheet numbers have been updated.

75. On the Network 4 (1 of 3) profile, the invert of ES4 at 8.15 for the 36-inch pipe appears to be below the grade line. It appears additional grading will be required to allow this invert to work.
Response: ES4 has been modified since the previous submission. However, all outlets shown correspond to the existing and/or proposed grade.

76. On the Network 4 (1 of 2) profile, show the group of utilities and sanitary sewer line located between DS4-2and DS5-3.

Response: Network 4 has been modified since the previous submission. However, all crossing utilities have been shown on the corresponding profiles.

GR-08: Drainage Profiles

77. Correct the sheet number to correspond with other plan sheets.
Response: The drainage profile drawings names and sheet numbers have been updated.

78. On the Network 5 (1 of 3) profile, the invert of ES5 at 8.64 for the 36-inch pipe appears to be below the grade line. It appears additional grading will be required to allow this invert to work.
Response: ES5 has been modified since the previous submission. However, all outlets shown correspond to the existing and/or proposed grade.

79. On the Network 5 (1 of 3) profile, show the group of utilities and sanitary sewer line located between DS5-2and DS5-3.
Response: Network 5 has been modified since the previous submission. However, all crossing utilities have been shown on the corresponding profiles.

GR-09: Drainage Profiles

80. Correct the sheet number to correspond with other plan sheets.
Response: The drainage profile drawings names and sheet numbers have been updated.

81. On the Network 6 (1 of 2) profile, show the group of utilities and sanitary sewer line located between DS6-8 and DS6-7.
Response: Network 6 has been modified since the previous submission. However, all crossing utilities have been shown on the corresponding profiles.

82. On the Network 6 (2 of 2) profile, show the group of utilities and sanitary sewer line located between DS6-2 and DS6-1.
Response: Network 6 has been modified since the previous submission. However, all crossing utilities have been shown on the corresponding profiles.

83. On the Network 6 (2 of 2) profile, show the location of the in-line stormwater filters located between DS6-2 and DS6-1 and DS6-1 and DS6-6.
Response: The stormwater water quality structures have been added to the profiles.

GR-12: Drainage Profiles

84. On the Network 7 (2 of 2) profile, show the group of utilities located between DS7-1 and ES7.
Response: Network 7 has been modified since the previous submission. However, all crossing utilities have been shown on the corresponding profiles.

85. On the Network 8 (1 of 2) profile, show the 8-inch water main located between DS8-10 and DS8.

Response: Comment no longer applies, as Network 8 has been removed from the proposed design.

86. On the Network 8 (3 of 3) profile, correct the overlapping text at DS8.
Response: Comment no longer applies, as Network 8 has been removed from the proposed design.

87. On the Network 8 (3 of 3) profile, show the group of utilities located between DS8A and ES8.
Response: Comment no longer applies, as Network 8 has been removed from the proposed design.

88. On the Network 8A profile, show the group of utilities located between DS8-11 and ES8A and sanitary forcemain between DS8-12 and DS8-11
Response: Comment no longer applies, as Network 8 has been removed from the proposed design.

GR-13: Drainage Profiles

89. On the Network 9 (1 of 3) profile, DS9-12 appears to be missing on the profile.
Response: Comment no longer applies, as this portion of Network 9 has been removed from the proposed design.

90. On the Network 9 (3 of 3) profile, show the location of the 12-inch water main located between DS9 and ES9 and 8-inch water main located between DS9 and DS9-2.
Response: Comment no longer applies, as this portion of Network 9 has been removed from the proposed design.

91. On the Network 9A profile, show the location of the 12-inch water main located between DS9-5 and ES9A.
Response: Comment no longer applies, as this portion of Network 9 has been removed from the proposed design.

GR-14: Drainage Details

92. For each cross section through the P-1 practices, provide the water elevation for each storm event and location of the aquatic bench.
Response: The stormwater pond details on drawing GR-14 have bene updated to provide the requested information.

93. Each cross section through the P-1 practices shows a forebay depth of 3-feet. Pursuant to Section 6.1.3 of the NYSSMDM, the forebay shall be four to six feet deep.
Response: Forebay depth was increased to 4' in the re-designed ponds.

94. The cross section for Stormwater Retention Pond #1 shows the 4-inch low flow pipe. It is recommended that this be placed in a structure on the permanent pool side to allow for easy maintenance and to prevent clogging.
Response: An outlet control structure was added to the stormwater pond design.

95. It has been represented that the primary site is underlaid by fly ash, limited the ability infiltration. If that is the case, there may be a need for a liner system if the fly ash is expected within the excavation limits of either Stormwater Retention Pond 1 or 2. If deemed necessary, specify the type of liner to be utilized.
Response: During soil sampling and geotechnical investigations, coal ash is was not found in the location of the proposed ponds; therefore, a liner has not been proposed. The ponds were strategically placed on the west side of the site to avoid the known coal ash contaminated soil.

96. It is noted that Stormwater Retention Pond 2 utilizes infiltration in the HydroCAD model as one of its outlets. If that is the case, then this appears to contradict one of the justifications for granting the deviations from the NYSSMDM as has been requested (not achieving required RRv). Clarification on this is necessary.
Response: Stormwater Pond #2 has been revised to eliminate infiltration as an outlet.

97. On the Drainage Structure detail, update the 'See Structure Table ####".
Response: The "####" has been updated to reference drawing GR-07..

98. There is a standard detail for a Town of Bethlehem Storm Manhole Cover. If no storm sewers are to be offered to the Town, this detail shall not be utilized.
Response: The Town of Bethlehem cover label has been removed.

GR-15: Drainage Details

99. Under General Notes, strike any reference to the need for site-specific drawings needing to be provided or obtained from the manufacturer. The plans to be approved by the Town shall contain a complete design supported by site specific details.
Response: The notes have been modified to direct the contractor to the applicable site-specific information within the design plans.

100. Under Installation Notes, Note A needs to be stricken and the details on the sheet need to include any sub-base or backfill requirements specific to the project.
Response: The notes have been modified to direct the contractor to the applicable site specific information within the design plans.

UT-00: Utility Notes and Index

101. Coordinate with the Town of Bethlehem on whether the notes provided specific to the water system shall remain or be replaced (or added to) utilizing any Town specific notes applicable to work on Town watermains. ``

Response: The water system within the site drawings will be a provide water main owned and maintained by the Albany Port District Commission. The proposed backflow preventer hot box is the transition between public and private system. The water service tap and line up to the hotbox will be Town owned and is detailed on the off-site improvements plans. The applicable Town standard notes and details will be added to that plan set in coordination with the Town.

UT-01: Utility Plan

102. Refer to Off-site Infrastructure Improvements plan review for comments on the water distribution system from the point of connection to the Town's system to the hot box.
Response: The proposed water service hotbox detailing has been moved from the off-site plans to the proposed expansion site plans since the hotbox is outside the NYSDOT ROW limits. The Hotbox is consistent with the Town's Standard detail for a 6" meter; however, all aspects of the hotbox have been upsized to accommodate an 8" service required for the site.

103. Provide a 12-inch gate valve on the proposed Town water main prior to the 12X12X8 tee associated with the Building A loop such that there is approximately 500-feet between valves.
Response: As the water main has been re-sized to 8", a 8" gate valve has been added at 500' maximum spacing.

104. Label the angle of deflection for all field bends in the water main.
Response: The water main angles of deflection have been labeled.

UT-02: Utility Plan

105. Provide a 12-inch gate valve on the proposed water main prior to the 12X12X8 tee such that there is approximately 500-feet between valves.
Response: As the water main has been re-sized to 8", a 8" gate valve has been added at 500' maximum spacing.

106. Show gate valves on all water service lines (domestic or sprinkler) to Building A and B.
Response: Gate valves have been added to the water service lines to Building A and B.

107. Show the location of any fire department connections associated with Building A and B.
Response: Fire department connections have been called out on the plan.

108. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26-feet, exclusive of shoulders pursuant to Section D103 of the FCNYS. The drive adjacent to the hydrant at the Building A branch line and west of Building B shall be increased to 26-feet in width pursuant to D103.1 of the FCNYS.
Response: A separate fire code response packages has been provided to the Town delineating the overall site plans with the fire hydrant locations highlighted and the 360-degree fire access route around each building, including turn templates for an aerial truck along the 26' wide access route.

109. For clarity, provide a different line type for the general water distribution system and high-pressure sprinkler line.
Response: The high-pressure sprinkler line is now shown as a "FP" linetype (fire suppression).

110. Label the angle of deflection for all field bends in the water main.
Response: The water main angles of deflection have been labeled.

111. Label the pipe diameter and slope for the sanitary sewer laterals out of Building A and upgradient of SM7 and SM8.
Response: The sanitary sewer laterals have been labeled. The Sanitary sewer main line information can be found in the profile sheets, drawings UT-07 and UT-08.

112. Label the pipe diameter and slope for the sanitary sewer lateral out of Building B and upgradient of SM5.
Response: The sanitary sewer laterals have been labeled. The Sanitary sewer main line information can be found in the profile sheets, drawings UT-07 and UT-08.

113. If Building A or B will have interior floor drains is shall be confirmed that they are to be routed to the on-site sanitary sewer and not the drainage system. There shall also be oil/water separators if conditions demand them.
Response: Buildings A and B will have floor drains and utilize oil/water separators. These will be internal to the building design for review during the building permit process.

UT-03: Utility Plan

114. Drainage structure DS-6-9 appears to be located on top of the 8-inch sanitary sewer line between SM2 and SM3. Relocate the drainage or sanitary line to resolve this conflict.
Response: The drainage line has been relocated to resolve the conflict.

115. Label the pipe diameter and slope for the sanitary sewer lateral out of Building C and upgradient of SM4 and SM3.
Response: The sanitary sewer laterals have been labeled. The Sanitary sewer main line information can be found in the profile sheets, drawings UT-07 and UT-08.

116. If Building C or D will have interior floor drains is shall be confirmed that they are to be routed to the on-site sanitary sewer and not the drainage system. There shall also be oil/water separators if conditions demand them.
Response: Buildings C and D will have floor drains and utilize oil/water separators. These will be internal to the building design for review during the building permit process.

UT-04: Utility Plan

117. Label the pipe diameter and slope for the sanitary sewer lateral out of Building A and upgradient of SM11.

Response: The sanitary sewer laterals have been labeled. The Sanitary sewer main line information can be found in the profile sheets, drawings UT-07 and UT-08.

UT-05 and UT-06: Utility Plan

118. No comments.

UT-07: Sanitary System Profile

119. On the SM11 to SM6 profile, Label the pipe diameter of the ductile iron sanitary forcemain between the pump station and SM4.
Response: The pipe diameter of the 4" forcemain has been added to the profile.

120. On the SM11 to SM6 profile, label the pipe diameter and utility type for the ductile iron pipe located near Sta 6+25.
Response: The 8" PE 3408-DR11 water main has been labeled on the profile.

121. On the SM11 to SM6 profile, show the location of the 24-inch storm between SM8 and SM7.
Response: Pipe DP1-14 has been added to the profile.

122. On the SM5 to SM4 profile, show the locations of the 3-inch and 8-inch water lines between SM5 and SM6.
Response: The location of the 3" and 8" water lines have been moved and they are no longer located between SM5 and SM6. A 8" water line is now exists between SM6 and SM7 and is shown on the profile.

123. On the SM5 and SM4 profile the 8-inch water main appears to be shown at Sta 20-50. If this water main is for domestic use, provide the required 18-inches of vertical separation.
Response: The sanitary force main has been adjusted to allow for the required 18" of vertical separation.

124. Confirm there is adequate vertical clearance between the sanitary line and any crossing utilities. For crossings at water mains, it shall be a minimum of 18-inches for any other utilities it shall be of sufficient distance to allow for proper compaction of utilities.
Response: All crossing pipes have been adjusted to allow for the required 18" of vertical clearance.

UT-08: Sanitary System Profile

125. On the SM1 to SM1 profile, Label the pipe diameter of the ductile iron sanitary forcemain located near Sta 27+75.
Response: The pipe near 27+75 is an 8" PE 3408-DR11 water main and has been labeled on the profile.

126. Confirm there is adequate vertical clearance between the sanitary line and any crossing utilities. For crossings at water mains, it shall be a minimum of 18-inches for any other utilities it shall be of sufficient distance to allow for proper compaction of utilities.
Response: Crossing pipes have been added to the profile and the sanitary line adjusted to allow for the required 18" of vertical clearance.

UT-09: Water System Profile

127. Refer to Off-site Infrastructure Improvements plan review for comments on the water distribution system from the point of connection to the Town's system to the hot box.
Response: The proposed water service hotbox detailing has been moved from the off-site plans to the proposed expansion site plans since the hotbox is outside the NYSDOT ROW limits. The Hotbox is consistent with the Town's Standard detail for a 6" meter; however, all aspects of the hotbox have been upsized to accommodate an 8" service required for the site.

128. Label the locations of vertical/horizontal joints, valves, tees and hydrants. Provide stationing at each of these components.
Response: Valves, tees, and hydrants have been labeled on the profile. Due to the complexity of the utilities proposed on this project, we request that the location of vertical and horizontal joints will be shown on the profiles for the final construction plans after final reviews by all parties have been completed.

129. Label the water system pipe material.
Response: The water pipe material has been labeled on the profile.

130. Label all critical utility crossings as not all appear to be shown.
Response: Utility crossings have been shown and labeled on the profile.

131. Confirm there is adequate vertical clearance between the potable water main and any crossing utilities which shall be a minimum of 18-inches for any sewer line.
Response: The water main has been adjusted to allow for the required 18" of vertical clearance.

UT-10: Water System Profile

132. Label the locations of vertical/horizontal joints, valves, tees and hydrants. Provide stationing at each of these components.
Response: Valves, tees, and hydrants have been labeled on the profile. The location of vertical and horizontal joints will be shown on the final construction plans.

133. Label the water system pipe material.
Response: The water pipe material has been labeled on the profile.

134. Label all critical utility crossings as not all appear to be shown.
Response: Utility crossings have been shown and labeled on the profile.

UT-11: Water System Profile

135. Label the locations of vertical/horizontal joints, valves, tees and hydrants. Provide stationing at each of these components.
Response: Valves, tees, and hydrants have been labeled on the profile. The location of vertical and horizontal joints will be shown on the final construction plans.

136. Label the water system pipe material.
Response: The water pipe material has been labeled on the profile.

137. Label all critical utility crossings as not all appear to be shown.
Response: Utility crossings have been shown and labeled on the profile.

UT-12: Sanitary System Details

138. The sanitary sewer manhole cover detail notes that the Town of Bethlehem would be owner of the sewer system. Correct the labeling provided on the manhole cover as the on-site sanitary sewer will be privately owned and operated.
Response: The manhole cover detail was modified to remove the Town of Bethlehem label.

UT-13: Sanitary System Details

139. No comments.

UT-14: Water Details

140. Unless directed otherwise by the Town, for any details for the water system that are intended for conveyance to the Town, the plans shall include the Town of Bethlehem Standard Water Details Sheets.
Response: The on-site water system is intended to be a private system. All infrastructure past the water backflow preventer/hotbox will be owned and maintained by the Albany Port District Commission.

UT-15: Water Details

141. Unless directed otherwise by the Town, for any details for the water system that are intended for conveyance to the Town, the plans shall include the Town of Bethlehem Standard Water Details Sheets.
Response: The on-site water system is intended to be a private system. All infrastructure past the water backflow preventer/hotbox will be owned and maintained by the Albany Port District Commission.

ESC-01: Erosion and Sediment Control Plan – Ph 1

142. Provide the total expected area of disturbance for Phase 1 on the plan.

Response: Total disturbance area for Phase 1 has been added to ESC-01.

143. The proposed diversion dyke that runs west of the staging area does not appear to provide adequate grade to intercept and direct runoff to the proposed Sediment Basin 3.
Response: The swale that runs west of the staging area has been updated to grade south to Sediment Basin #1.

144. Proposed Sediment Basin 3 and 4 shall include the appropriate calculations to demonstrate that they are adequately sized for the contributory areas.
Response: Calculations for Temporary Sediment Basins 1, 2 and 3 have been provided as Appendix I of the SWPPP Report.

145. Provide grading for Sediment Basin 4 to ensure it will have adequate storage capacity.
Response: Sediment Basin 4 has been removed. This comment no longer applies.

146. Proposed grading is shown outside the limits of disturbance.
Response: ESC-01 has been updated to show grading only within the limit of disturbance.

ESC-02: Erosion and Sediment Control Plan – Ph 2

147. Provide the total expected area of disturbance for Phase 2 on the plan.
Response: Total disturbance area for Phase 2 has been added to ESC-02.

148. Proposed Sediment Basin 1 and 2 shall include the appropriate calculations to demonstrate that they are adequately sized for the contributory areas.
Response: See Response to Comment #144 above.

149. Provide grading for Sediment Basin 1 and 2 to ensure it will have adequate storage capacity.
Response: Grading for all Sediment Basins has been provided on sheet ESC-02.

150. Proposed grading is shown outside the limits of disturbance.
Response: ESC-02 shows the proposed grade of areas that were graded and stabilized during phase 1. A note has been added on sheet ESC-02.

ESC-03: Erosion and Sediment Control Plan – Ph 3

151. Provide the total expected area of disturbance for Phase 3 on the plan.
Response: Total disturbance area for Phase 3 has been added to ESC-03.

152. Proposed Sediment Basin 1, 2 and 4 shall include the appropriate calculations to demonstrate that they are adequately sized for the contributory areas.
Response: See Response to Comment #144 above.

153. Provide grading for Sediment Basin 1, 2 and 4 to ensure it will have adequate storage capacity.
Response: Grading for all Sediment Basins has been provided on sheet ESC-03.

154. Show all required erosion and sediment controls associated with this phase include slope protection and concrete washouts.
Response: All required ESC practices are shown on ESC-03, based on a the revised Phase 3 no concrete work is proposed in this phase and therefore the concrete washout is not needed yet.

155. Proposed grading is shown outside the limits of disturbance.
Response: ESC-03 shows the proposed grade of areas that were graded and stabilized during previous phases. A note has been added on sheet ESC-03.

ESC-04: Erosion and Sediment Control Plan – Ph 4 **(Now Ph 5 - Sheet ESC-05)**

156. Provide the total expected area of disturbance for Phase 4 on the plan.
Response: Total disturbance area for Phase 4 has been added to ESC-04.

157. Proposed Sediment Basin 3 will be converted to the permanent stormwater system during this phase. There shall be a descriptive plan of how this will be rehabilitated following construction such that construction phase sediment does not impact long term operation. There needs to be clear direction to the contractor as to the timing of any rehabilitation work to be performed.
Response: Note has been added to Phase 1 specifying that the sediment basin forebays will be graded 1' higher then that proposed permanent pond. A note has also been added to ESC-01 and additional clarifications to the phasing notes on ESC-06.

158. Since Phase 4 represents the final disturbance phase, there needs to be more descriptive narratives provided to direct when certain erosion and sediment control measures are to be removed. As an example, the plan indicates that the Sediment Basin 1 and 2 are to be removed, however during this phase, the large staging area will be raised with aggregate material. It is not clear on the sequencing of these discrete activities.
Response: Additional language was added to the Control Sequencing notes on drawing ESC-06. The dense graded aggregate material will be spread around the site from the surcharge piles once surcharge settlement is completed. The material will be spread in layers with filter fabric and geogrid. The contactor will work form west to east and when they reach the sedimentation basins all of the upstream disturbance areas will have been stabilized with the first layer of fabric/stone/geogrid. At that point the sedimentation basins will be de-commissioned and removed.

159. Proposed grading is shown outside the limits of disturbance.
Response: ESC-04 shows the proposed grade of areas that were graded and stabilized during previous phases. A note has been added on sheet ESC-03.

ESC-05: Erosion and Sediment Control Notes **(Now Sheet ESC-06)**

160. Provide standard notes specific to wintertime operations following the NYSDEC and Blue Book requirements in the event wintertime soil disturbances are planned.
Response: Notes specific to wintertime operations have been added to sheet ESC-06.

161. For each of the four phases of disturbance listed, provide the approximate area.
Response: A chart listing the soil disturbance during each phase has been added to sheet ESC-06.

ESC-06: Erosion and Sediment Control Details

162. The Outlet Protection – Rip Rap Detail notes that the La length is 10-foot minimum but to refer to chart. The detail does not include the referenced chart.
Response: Detail has been updated to remove references to a chart.

ESC-07: Erosion and Sediment Control Details

163. The Sediment Basin and Stone Outlet Sediment Trap details are intended as temporary measures to control construction phase sediment from being discharged from the construction area. For each location being proposed, independent calculations shall be provided to ensure they are sized appropriately.
Response: Sediment Trap detail has been removed, as it is no longer being proposed. The Temporary Sediment Basin detail has been updated to include sizing calculations. Full calculations are provided in Appendix I of the SWPPP.

LA-01 through LA-06: Landscape and Lighting

164. The above plan sheets are noted on the cover page as not being submitted. No review has been completed.

Site Plans – Off-site Infrastructure Improvements

Response: Updated Off-site Infrastructure Improvements plans have not been provided as we are still awaiting comments from NYSDOT. A Final Design plan set incorporating comments 165 through 178 as well as any NYSDOT review comments along with responses to the comments will be provided at a later date.

GN-01: General Notes

165. Provide a general note indicating that all work subject to Section 128-49 of the Town Zoning shall be certified by designated professionals pursuant to Section 128-49(f)(2)(I).
Response: To be provided at a later date.

166. Correct Sequence of Construction Note 2 to reference the current Stormwater General Permit.
Response: To be provided at a later date.

167. Correct Note 2 under Water Main Materials regarding the poly-wrap of water mains owned by the Town to include V-Bio Enhanced Polyethylene Encasement.
Response: To be provided at a later date.

TP-01: Typical Section

168. The proposed road cross sections are for either improvements within the NYSDOT right-of-way or the private drive associated with the project. Since these are private roads they are not required to meet the Town of Bethlehem standards specific to public roadways.
Response: Duly Noted

RW-01: Roadway Plan

169. Detail the method of connection to the existing 16-inch water main on the west side of NYS Rt 144 which shall be a tapping tee and valve. Specific information regarding time frame for work shall be coordinated with the Town and/or NYSDOT. Further, if there is limits or prohibition on shut downs of the existing water main, notes to that affect shall be provided on the plan.
Response: To be provided at a later date.

170. Based upon discussions with the Town, the existing 16-inch water main being connected to is not located adjacent to Rt 144 as depicted on the plans and is outside of the Rt 144 right-of-way and within an easement. The plans need to be updated to accurately show the alignment of the water service connection. This point was previously sent to the engineer of record on October 6, 2021 with record plans of the location of the 16-inch water main.
Response: To be provided at a later date.

171. The watermain profile suggests that the 12-inch water main will be installed using conventional methods across NYS Rt 144. It is anticipated that the NYSDOT will not permit an open cut of the State highway. If that is the case, the plan and profile shall be updated accordingly to show:
    a. Transition from directional drilled pipe to conventional pipe
    b. Push and/or pull pits.
    c. Methods of dewatering of push and/or pull pits.
    d. Appropriate vertical alignment of directionally drilled pipe

Response: To be provided at a later date.

GR--01: Grading and Drainage Plan

172. The plan shows grading activities associated with the Rt 144 entrance. However, there appears to be no stormwater quality or quantity control measures being incorporated. In reviewing the project SWPPP, it is not clear if this work has been modeled and/or accounted for in the water quality / quantity calculations.
Response: The on-site SWPPP and drainage report have been updated to incorporate the disturbance area and proposed new impervious areas associated with the offsite roadway improvements. These areas are still sugject to change based on review comments from NYSDOT.

173. Provide erosion and sediment control measures on the plan or provide a separate erosion and sediment control plan for review.
Response: To be provided at a later date.

174. Show the location of the proposed hot box.
Response: To be provided at a later date.

175. Provide a level area at the hot box which should be a minimum of 15-feet outward from the structure for town vehicles to access and perform and inspection work at the hot box.
Response: A level area with a pull off has been graded in this area on the site design plans.

WZ-01: Grading and Drainage Plan

176. The work shown on the plan is subject to the review and approval of the NYSDOT and has not been reviewed. It shall be noted that the EIS indicated that there would be a speed reduction along Rt 144 during construction. The plan shall incorporate the required speed reduction.
Response: To be provided at a later date.

DT-01: Miscellaneous Details

177. Unless directed otherwise by the Town, for any details for the water system that are intended for conveyance to the Town, the plans shall include the Town of Bethlehem Standard Water Details Sheets.
Response: To be provided at a later date.

DT-02: Miscellaneous Details

178. Unless directed otherwise by the Town, for any details for the water system that are intended for conveyance to the Town, the plans shall include the Town of Bethlehem Standard Water Details Sheets.
Response: To be provided at a later date.

Site Plans – Normanskill Street Rehabilitation

GN-01: General Notes

179. Provide a general note indicating that all work subject to Section 128-49 of the Town Zoning shall be certified by designated professionals pursuant to Section 128-49(f)(2)(I).
Response: Note #17 was added to the general note sheet, GN-01.

RP-01: Roadway Plan and Profile

180. The road profile from Sta 16+00 to 18+00 is shown at 0.02%. Pursuant to Section 100-11 of the Town Code, the center line gradient of streets shall be no less than 0.8%. The applicant may apply for a waiver from the stated standards pursuant to Section 100-30 of the Town Code.
Response: The roadway is a rehabilitation of the existing road which has as profile of less than 0.8%. A waiver from this Town Code requirement is being requested.

181. Clarify whether the existing 8-inch water main will be abandoned matching what is stated on Sheet DE-01 of the Expansion Plans. If it is to be abandon, limits of work and method of termination at the municipal main shall be noted.
Response: After further research and coordination with all involved parties, it was determined that the previous 8" water main has been abandoned back to the water vault adjacent to the Buckeye property back around station 38+00. The existing 15' easement for the water line to our knowledge has not been eradicated; therefore, the easement line will continue to be shown on the plans .

182. Normanskill Street is a Town of Bethlehem road. Provide a turnaround on the north side of the bridge allowing Town vehicles to maneuver and not enter the site. Utilize either the Town's standard cul-de-sac or a tee turn around conforming to the Fire Code of New York State.
Response: A gravel half-hammer head bump out in the road has been provided to allow for a plow truck to make a 3-point turn at the end of the Town maintained roadway section, see drawing RP-01.

RP-02: Roadway Plan and Profile

183. The road profile from Sta 18+00 to Sta 25+00 is shown at 0.02% and Sta 27+00 to 29+50 is shown at 0.2%. Pursuant to Section 100-11 of the Town Code, the center line gradient of streets shall be no less than 0.8%. The applicant may apply for a waiver from the stated standards pursuant to Section 100-30 of the Town Code.
Response: See response to Comment #180.

RP-03: Roadway Plan and Profile

184. The road profile from Sta 29+50 to Sta 37+00 (municipal boundary with the City of Albany) is shown with slope ranging from 0.01% to 0.19%. Pursuant to Section 100-11 of the Town Code, the center line gradient of streets shall be no less than 0.8%. The applicant may apply for a waiver from the stated standards pursuant to Section 100-30 of the Town Code.
Response: See response to Comment #180.

RP-04, RP-05 & RP-06: Roadway Plan and Profile

185. Plan not reviewed as it is outside the Town of Bethlehem and is subject to the City of Albany's review.
Response: Duly Noted.

TP-01 & TP-02: Typical Section

186. The proposed road section differs from the Town's standard road sections. This includes the pavement / lane width and material type and depth making up the pavement section. In most instances the dimension requirements and/or material depths of the pavement section exceed the Town standards. MJ would take no exception to the Town considering granting a waiver as

permitted by Section 100-30 of the Town Code. The Applicant should prepare a waiver request identifying each deviation as well as justification for review and consideration.
Response: A waiver request will be required for the aspects of the proposed road that exceed the Town requirements. This roadway design was based on the minimum design criteria necessary for 2-way transportation of the manufacturing materials between 700 Smith Boulevard and the manufacturing facility on the expansion site.

GR-01: Grading, Drainage Erosion and Sediment Control

187. The 18-inch flared end section near STA 12+50 discharged to grade. There is no defined swale or stone treatment shown at the end section. Further, the graded swale is not well defined. Its width and depth shall be clarified to ensure there is adequate hydraulic capacity to convey runoff to the infiltration basin.
Response: Additional detailed grading has been added to the plans associated wo the infiltration basins including drainage from this end section is directed to the basin #1 via swale.

188. Infiltration Basins No. 1 and No. 2 appears to have no defined contours to form the depression modeled in the HydroCAD.
Response: See response to Comment #187.

189. Infiltration Basins No. 1 and No. 2 appears to have overflow to a rip rap channel; however, the plans show no defined weir structure or outlet device on either infiltration basin.
Response: The plans have been updated to include the grading for a riprap lined overflow channel to the Normanskill and a detail for the spillway is provided in drawing DT-03.

190. Infiltration Basins No. 1 and No. 2 need to include means to operate during wintertime conditions. This may include the installation of a series of drywells that penetrate the upper frost layers of the soil, which would permit infiltration even in cold/freezing weather.
Response: An underdrain pipe with risers have been included in the design with details provided on drawing DT-03 for the infiltration basin. This system has been used in other infiltration basins where the municipality was concerned with frozen ground impacting the infiltration rate of the runoff water.

191. Provide a cross section detail for the Infiltration Basins No. 1 and No. 2. The cross section should provide design elevations including stone invert, pipe invert and depth of runoff by storm event as reported by the SWPPP.
Response: The detail has been updated to reflect the information from the hydroCAD model.

192. Pursuant to Section 6.3.6 of the NYSSMDM, infiltration practices shall never serve as a sediment control device during site construction phase. The Erosion and Sediment Control plan shall clearly indicate how sediment will be prevented from entering an infiltration facility. Show how runoff during construction will be diverted away/around the proposed infiltration practices. This will include both sheet flow and piped flow that would need to be diverted / managed until each basin has been fully constructed and adequate cover established within the confinement area.

Response: A forebay was added to the infiltration basins and will be utilized as the sediment trap during construction. Utilizing the forebay is a standard practice that have been approved by other MS4s and the NYSDEC on other projects across the state and in the Albany area.

193. Provide a note stating, "Upstream construction shall be completed and stabilized before connection to a downstream infiltration facility. A dense and vigorous vegetative cover shall be established over the contributing pervious drainage areas before runoff can be accepted into the facility."
Response: See response to Comment #192, the intent is that once the upland area has been stabilized, the infiltration basin will be assessed as part of the SWPPP inspection to determine if any additional modifications/maintenance is required to comply with the design intent and operations required for the infiltration basin system.

194. Provide a direct access to each infiltration practices for maintenance and rehabilitation pursuant to Section 6.3.6 of the NYSSMDM.
Response: A 12' wide gravel access drive has been provided to each infiltration practice within the final design plans.

195. Provide all applicable erosion and sediment control measures to be employed on the sheet.
Response: Silt fence is the only temporary erosion and sediment control measure anticipated on this plan and is shown at the top of the disturbance slopes.

196. Clarify the end owner of the proposed stormwater management areas. If it is the Town of Bethlehem, the Town may consider forming a special district to cover the long-term operation and maintenance of these facilities.
Response: These proposed facilities are within the Albany Port District Commission (APDC) owned property. APDC will be the owner and operator of the stormwater facilities.

<u>GR-02: Grading, Drainage Erosion and Sediment Control</u>

197. The HydroCAD model notes a dry swale is proposed along the northern end of the roadway, somewhere prior to the municipal boundary with the City of Albany. It is unclear from the plan where this practice is located or being proposed.
Response: Dry Swale #1 is labeled on drawing RP-02 and GR-01.

198. Provide all applicable erosion and sediment control measures to be employed on the sheet.
Response: Silt fence is the only temporary erosion and sediment control measure anticipated on this plan and is shown at the top of the disturbance slopes.

<u>GR-03: Grading, Drainage Erosion and Sediment Control</u>

199. Plan not reviewed as it is outside the Town of Bethlehem and is subject to the City of Albany's review.
Response: Duly Noted

GR-04: Drainage Tables

200. No comments.

DT-01: Erosion and Sediment Control Details

201. The Outlet Protection – Rip Rap Detail notes that the La length is 10-foot minimum but to refer to chart. The detail does not include the referenced chart.
Response: The reference to the chart was removed, La shall be a minimum of 10' on this project.

DT-02: Erosion and Sediment Control Details

202. The Sediment Basin and Stone Outlet Sediment Trap details are intended as temporary measures to control construction phase sediment from being discharged from the construction area. For each location being proposed, independent calculations shall be provided to ensure they are sized appropriately.
Response: The infiltration basin forebays are intended to provide the temporary sediment control and function as a stone outlet sediment trap during construction, the details for the sediment basin have been removed from the project as they are no proposed.

DT-03: Drainage Details

203. The Infiltration Basin Detail requires for the following revisions:
    a. The elevation tables need to be updated.
    b. The detail shows a forebay, however the supporting plans do not show the same conditions.

    Response: The grading and drainage plans have been updated to reflect the proposed infiltration basin design.

Stormwater Pollution Prevention Plan

204. As a general comment, the SWPPP provides reference to documents contained within the environmental impact statement, such as the geotechnical report. For the final SWPPP that will be the basis of the Town to issue an MS4 SWPPP Acceptance Form, any references to supporting documents within the EIS shall become part of the SWPPP itself such that it represents a fully complaint document available for public view at the project site in accordance with GP-0-20-001.
Response: All references to supporting documents within the EIS will be included in the final SWPPP available for public view at the project site.

205. Section 1.4 discusses the full scope of the project inclusive of work planned in the City of Albany at 700 Smith Boulevard. The applicant has represented that the while the work in Albany is part of the overall project, from a stormwater permitting prospective, there will be two SWPPPs, one for work in Bethlehem and one for work in Albany. With approximately 1-mile separation between the two projects, MJ would concur with this approach as the separation distance avoids the larger

common plan of development that would otherwise make this a single project and a single SWPPP to support permit coverage.
Response: Duly Noted.

206. Section 1.4. notes the total disturbance for the project to be 69.3 acres. There needs to be clarification between what is the total project disturbance and what the disturbance is within the Town of Bethlehem. It shall also be confirmed that the area of disturbance captures primary site work, the off-site improvements along Rt 144 and work along Normanskill Street within the Town of Bethlehem.
Response: Section 1.4 of the SWPPP has been updated to clarify that the soil disturbance noted refers to disturbance only within the Town of Bethlehem. Section 1.4 has also been updated to clarify that the disturbance area includes the Expansion Site, Offsite Improvements, and Normanskill St. Improvements (within Town of Bethlehem). It should also be noted that the disturbance area has been updated and is now 72.7 acres.

207. With 69.3 acres of disturbance planned, Section 1.4 should clearly indicate whether a 5-acre disturbance waiver will be requested. Should one be requested, it is common practice in the Town of Bethlehem for the request to be a separate document from the SWPPP. The request shall provide specific details regarding the waiver including (1) necessity (2) duration with actual dates (3) number of phases and (4) discussion of additional measures to be employed beyond the basic BMPs. The applicant should be aware that the granting of a waiver by the Town is a discretionary approval, one that may be suspended or revoked for non-compliance to prevent site erosion from becoming unmanageable.
Response: Section 1.4 of the SWPPP has been revised to state that a 5-acre waiver will be requested.

208. Section 4.1 of the SWPPP needs to include the following additional steps.
    a. Step one needs to specifically mention that the MS4 shall participate in the pre-construction meeting.
    Response: The MS4 has been added, see Section 4.1 step 1.
    b. Following Step four, there shall be a step where all installed erosion and sediment control measures are inspected and certified as being installed correctly by the owner's qualified inspector and Town of Bethlehem staff.
    Response: The above noted step has been added, see Section 4.1 step 5.
    c. Following Step 13, there shall be a step where Town of Bethlehem staff conduct a site inspection to determine (1) that the site has achieved 80% stabilization and (2) the installed stormwater facilities are operational.
    Response: the above noted step has been added, see Section 4.1 step 15.

209. Section 5.1.9 identifies the frequency of site inspections during construction. Should a 5-acre disturbance waiver be applied for and granted, then the section shall be updated to include the increased frequency of inspections.
Response: Section 5.1.9 has been updated to note the number of inspections required shall a 5-acre waiver be granted.

210. Section 5.1.10 shall be amended to also include the Town of Bethlehem as the regulated land use MS4 for participation in any corrections.
Response: The Town of Bethlehem has been added as a participating party in the final inspection, see Section 5.1.10.

211. Section 8.1.2, 8.1.3 and 8.1.4 indicates that Channel Protection Volume (CPv), Overbank Flood Control (Qp) and Extreme Flood Control (Qf), respectively do not apply to the project since site runoff will directly discharge to the Hudson Reiver and Normans Kill as these are tidal waters or fifth order waterbodies. In reviewing the proposed Subcatchment Map in Appendix B of the Drainage Report, DR-10, DR-11 and DR-12 flow to and through Wetland #1, through a 40-inch culvert and then into the Normans Kill. This point has been discussed informally with the applicant's design professional with the last communication being that Wetland #1 may be under tidal influence. This matter needs to be resolved to fully exempt the project from the stated quantity control criteria. As presented, it is MJ's opinion that DR-10, DR-11 and DR-12 need to incorporate water quantity controls since they do not directly discharge to tidal waters or a fifth order water body.
Response: Sections 8.1.2, 8.1.3, and 8.1.4 have been revised to state only discharges directly to the Hudson River and Normans Kill are exempt from the CPv, Qp, and Qf requirements. Section 9.3 of the SWPPP and the Drainage Report have been updated to include a pre- and post-development analysis of the inflow to Wetland #1.

212. Section 8.2.12 indicates that infiltration systems are not considered. This contradicts statements made in Section 8.1.1 where it is stated that infiltration basins are being utilized for the Normans Kill Street extension. Infiltration is also claimed for Stormwater Retention Basin 2.
Response: Section 8.2.12 has been revised to state that infiltration systems were utilized for Normanskill St and Offsite Improvements.

213. Section 9.4 identifies two deviations from the Design Manual, (1) the use of manufactured stormwater filtering systems for new development and (2) the inability to meet the minimum RRv. These proposed deviations will be reviewed further with the Town to determine whether the site condition justify approval by the MS4. Consultation with the Regional Office of the NYSDEC may occur.
Response: Duly noted.

214. The SWPPP shall include documentation that the project is eligible for permit coverage pursuant to Part I.F.4 of GP 0-20-001 with respect to threatened and endangered species. This includes both listed state and federal species.
Response: This SWPPP Report provides coverage for soil disturbances within the project boundary, above the Mean High Water (MHW) elevation of the Hudson River and Normans Kill. Within the disturbance area covered by this SWPPP there are no identified threatened or endangered species. Work below the MHW elevation line will be covered under a separate permit. A note addressing this has been added to Section 1.4.

215. Provide a drat Notice of Intent (NOI) for review.
Response: A Draft NOI has been included in the SWPPP as Appendix J.

Appendix C – Drainage Report

216. Section III.A or B needs to provide/list the 24-hour rainfall intensities utilized in the analysis of the 1-year, 10-year and 100-year storm events as well as identifying the source of the data (NYSDEC Manual or Northeast Regional Climate Center's Extreme Precipitation tables).
Section III.A has been updated to include a table of the rainfall depths used in the analysis of the 1, 10, and 100-year storms events and the source of the data.

217. Section III.C, III.D and III.E indicates that Channel Protection Volume (CPv), Overbank Flood Control (Qp) and Extreme Flood Control (Qf), respectively do not apply to the project since site runoff will directly discharge to the Hudson River and Normans Kill as these are tidal waters or fifth order waterbodies. In reviewing the proposed Subcatchment Map in Appendix B of the Drainage Report, DR-10, DR-11 and DR-12 flow to and through Wetland #1, through a 40-inch culvert and then into the Normans Kill. This point has been discussed informally with the applicant's design professional with the last communication being that Wetland #1 may be under tidal influence. This matter needs to be resolved to fully exempt the project from the stated quantity control criteria. As presented, it is MJ's opinion that DR-10, DR-11 and DR-12 need to incorporate water quantity controls since they do not directly discharge to tidal waters or a fifth order water body.
Response: Sections III.C, III.D, and III.E have been revised to state only discharges directly to the Hudson River and Normans Kill are exempt from the CPv, Qp, and Qf requirements. Section IV.A has also been updated to include a pre- and post-development analysis of the inflow to Wetland #1.

218. Section IV.B identifies two deviations from the Design Manual, (1) the use of manufactured stormwater filtering systems for new development and (2) the inability to meet the minimum RRv. These proposed deviations will be reviewed further with the Town to determine whether the site condition justify approval by the MS4. Consultation with the Regional Office of the NYSDEC may occur.
Response: Duly Noted.

219. The Tc calculations for the predevelopment conditions utilizes a sheet flow length of 200-feet for Subcatchments DR-A, DR-D and DR-E. The length of overland flow used in Tc calculations is limited to no more than 150 feet for predevelopment conditions pursuant to Section 4.5 of the NYSSMDM. On areas of extremely flat terrain, this maximum distance may be extended to 250 feet for predevelopment conditions. In reviewing the existing topography over the initial 150-feet feet of each watershed, none appear to meet this criterion and the Tc values shall be adjusted accordingly.
Response: All predevelopment Tc calculations have been updated to limit the overland sheet flow to no more than 150 feet. See Appendix A.

220. The proposed condition subcatchment map in Appendix B should provide color coded subcatchment boundaries to differentiate between other map linework. As presented, it is difficult to confirm boundaries.
Response: The proposed condition subcatchment map has been revised to provide color coded boundaries, see Appendix B.

221. DR-1 shows a Tc length of 1,000 ft but has a direct entry Tc value of 6 minutes. Confirm that that computed Tc is less than 6 minutes such that the minimum recommended value of 6 minute is appropriate.
Response: This comment is no longer applicable as DR-1 has been modified. However, all drainage areas utilizing the minimum value of 6 minutes have been confirmed as appropriate.

222. The Tc calculations for the post development conditions utilizes a sheet flow length of 200-feet or greater for Subcatchments DR-2, Dr-3, DR-4, and DR-12 under the post development conditions. Chapter 4 of the NYSSMDM requires that the length of overland flow used in time of concentration (tc) calculations is limited to no more than 100 feet for post development conditions. The only time in which greater lengths may be considered is when the terrain is relative flat, a condition the site does not appear to have. The Tc calculations for the post development watersheds which include development shall be modified accordingly.

223. The total pre and post development watershed assessed have different areas. Under predevelopment conditions, the total watershed area is 107.7 acres and under predevelopment conditions, the total watershed area is 98.88 acres. The total watershed areas assessed should be the same under both modeled conditions or an explanation provided as to the difference needs to be provided.
Response: The total watershed areas have been updated. The post development condition differs by 0.2 acres due to the proposed bridge over the Normans Kill. A note addressing this has been added to Section II.B.

224. Pond 1P - WQv Pond #1 (Pond#2 on plans) appears to utilize the full depth of both the forebay and permanent pool for storage and does not discount for the volume that would continually be occupied by water pursuant the corresponding pond design requirements. As an example, Sheet GR-02 shows the bottom of the forebay to be at approximately 10-feet with the HydroCAD model modeling to that depth. Forebays are to have a minimum of 4-feet of permanent water for pretreatment. Therefore, the available volume would appear to start at elevation 14, which is above the maximum storage in the forebay per the model.
Response: WQv Pond #1 has been modified in HydroCAD to establish the base water elevation in the forebays and permanent pool.

225. Pond 1P - WQv Pond #1 (Pond#2 on plans) shows a channel reach outlet and 4-inch round culvert outlet. The corresponding plans (Sheet GR-02 and UT-02) show no defined outlets. Correct the plans and model such that they match.
Response: The proposed outlet structure, outlet pipe and reverse slope pipe is now shown on the grading plans for Pond #1 and Pond #2.

226. Pond 1P - WQv Pond #1 (Pond#2 on plans) shows exfiltration as one of the outlet devices. It has been represented that that infiltration would not be used anywhere in the primary site due to the poor soils. Independent of representations made, if infiltration is to be used, soil tests for this location shall be provided.
Response: WQv Pond #1 has been modified to no longer include exfiltration as an outlet device.

227. At the 100-year event, Pond 1P (WQv Pond #1) shows a peak elevation of 16.14-feet, which appears to be above the maximum elevation of the pond embankment. It is recommended that the pond be designed such that the embankment provides at least 1-foot of freeboard at the 100-year event.
Response: In large storm events WQv Pond #1 outlets to Wetland #1. The pond has been redesigned based on various comments received and the resultant design elevations are provided in the detail on Drawing GR-14.

228. Pond 1P - WQv Pond #2 (Pond#1 on plans) appears to utilize the full depth of both the forebay and permanent pool for storage and does not discount for the volume that would continually be occupied by water per the corresponding pond design requirements. As an example, Sheet GR-01 shows the bottom of the forebay to be at approximately 8' with the HydroCAD model modeling to that depth. Forebays are to have a minimum of 4-feet of permanent water for pretreatment. Therefore, the available volume would appear to start at elevation 11, which is above the maximum storage in the forebay per the model.
Response: WQv Pond #2 has been modified in HydroCAD to establish the base water elevation in the forebays and permanent pool.

229. Pond 1P - WQv Pond #2 (Pond#1 on plans) shows a channel reach outlet. The corresponding plans (Sheet GR-01 and UT-01) show no defined outlets. Correct the plans and model such that they match.

230. Pond 1P - WQv Pond #2 (Pond#1 on plans) shows exfiltration as one of the outlet devices. It has been represented that that infiltration would not be used anywhere in the primary site due to the poor soils. Independent of representations made, if infiltration is to be used, soil tests for this location shall be provided.
Response: WQv Pond #1 has been modified to no longer include exfiltration as an outlet device.

231. Pond 3P – Infiltration Basin #1 shows a maximum flood elevation of 12.42', for the 100-year event, which is above the stage/storage volume modeled. It is recommended that the pond be designed such that the embankment provides at least 1-foot of freeboard at the 100-year event.
Response: In large storm events WQv Pond #2 outlets to Wetland #1. The pond has been redesigned based on various comments received and the resultant design elevations are provided in the detail on Drawing GR-14.

232. Pond 3P – Infiltration Basin #1 only shows a channel / reach for an outlet with no infiltration accounted for. In order to provide an accurate representation of this basin's performance, infiltration shall be accounted for.
Response: Infiltration Basin #1 has been revised fully designed to account for infiltration.

233. All infiltration systems shall be designed to fully de-water the entire WQv within 48 hours after the storm event pursuant to Section 6.3.2 of the NYSSMDM. In reviewing the hydrographs for Infiltration 1 and 2, it appears they are dewatering however there is oscillations. Extend the time interval to ensure that the outflow gets to zero within the 48 hour time span.
Response: The hydrographs for Infiltration Basins 1 and 2 have been extended to include the full 48 hour time span.

234. There is no apparent pre-treatment being provided for Infiltration Basin #1 or #2. Show their location and provide calculations demonstrating compliance with Section 6.3.3 of the NYSSMDM. The sizing of the pretreatment facilities shall take into account the infiltration rates of the underlying soils.
Response: The infiltration basins have been fully designed to provide pre-treatment sedimentation forebay basins for both Infiltration Basin #1 and #2. A minimum infiltration rate of 0.5 in/hr was used in the design of the basins and will be confirmed by the contractor once clearing and excavation down to the bottom elevation has been established.

If you have any questions related to the enclosed information or if you require additional information, please contact me at (518) 580-9380 or via email at SBoisvert@mjinc.com

Sincerely,
McFarland-Johnson, Inc.

Adam J. Frosino, PE, PTOE
Project Manager

c: Robert Leslie, Town of Bethlehem
Richard Hendrick, Port of Albany
Megan Daly, Port of Albany
Steve Boisvert, McFarland-Johnson