

 EXPERIENCE

 COMMITMENT



 VISION

 INNOVATION













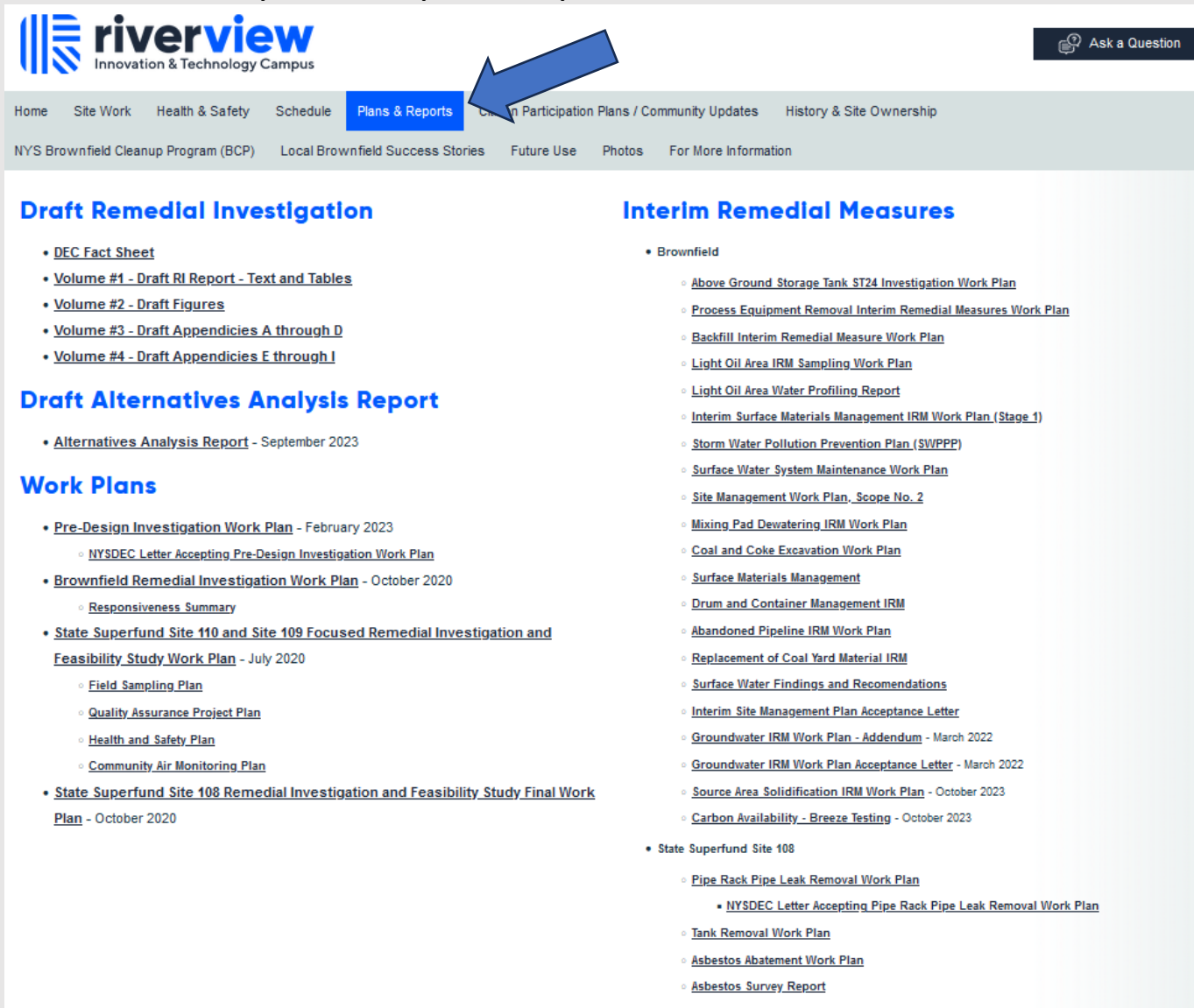








<http://riverviewtechcampus.com/plans-reports/>



riverview
Innovation & Technology Campus

Home Site Work Health & Safety Schedule **Plans & Reports** Community Participation Plans / Community Updates History & Site Ownership

NYS Brownfield Cleanup Program (BCP) Local Brownfield Success Stories Future Use Photos For More Information

Draft Remedial Investigation

- [DEC Fact Sheet](#)
- [Volume #1 - Draft RI Report - Text and Tables](#)
- [Volume #2 - Draft Figures](#)
- [Volume #3 - Draft Appendices A through D](#)
- [Volume #4 - Draft Appendices E through I](#)

Draft Alternatives Analysis Report

- [Alternatives Analysis Report](#) - September 2023

Work Plans

- [Pre-Design Investigation Work Plan](#) - February 2023
 - [NYSDEC Letter Accepting Pre-Design Investigation Work Plan](#)
- [Brownfield Remedial Investigation Work Plan](#) - October 2020
 - [Responsiveness Summary](#)
- [State Superfund Site 110 and Site 109 Focused Remedial Investigation and Feasibility Study Work Plan](#) - July 2020
 - [Field Sampling Plan](#)
 - [Quality Assurance Project Plan](#)
 - [Health and Safety Plan](#)
 - [Community Air Monitoring Plan](#)
- [State Superfund Site 108 Remedial Investigation and Feasibility Study Final Work Plan](#) - October 2020

Interim Remedial Measures

- Brownfield
 - [Above Ground Storage Tank ST24 Investigation Work Plan](#)
 - [Process Equipment Removal Interim Remedial Measures Work Plan](#)
 - [Backfill Interim Remedial Measure Work Plan](#)
 - [Light Oil Area IRM Sampling Work Plan](#)
 - [Light Oil Area Water Profiling Report](#)
 - [Interim Surface Materials Management IRM Work Plan \(Stage 1\)](#)
 - [Storm Water Pollution Prevention Plan \(SWPPP\)](#)
 - [Surface Water System Maintenance Work Plan](#)
 - [Site Management Work Plan, Scope No. 2](#)
 - [Mixing Pad Dewatering IRM Work Plan](#)
 - [Coal and Coke Excavation Work Plan](#)
 - [Surface Materials Management](#)
 - [Drum and Container Management IRM](#)
 - [Abandoned Pipeline IRM Work Plan](#)
 - [Replacement of Coal Yard Material IRM](#)
 - [Surface Water Findings and Recommendations](#)
 - [Interim Site Management Plan Acceptance Letter](#)
 - [Groundwater IRM Work Plan - Addendum](#) - March 2022
 - [Groundwater IRM Work Plan Acceptance Letter](#) - March 2022
 - [Source Area Solidification IRM Work Plan](#) - October 2023
 - [Carbon Availability - Breeze Testing](#) - October 2023
- State Superfund Site 108
 - [Pipe Rack Pipe Leak Removal Work Plan](#)
 - [NYSDEC Letter Accepting Pipe Rack Pipe Leak Removal Work Plan](#)
 - [Tank Removal Work Plan](#)
 - [Asbestos Abatement Work Plan](#)
 - [Asbestos Survey Report](#)

- Remedial Action Objectives – Standard NYSDEC defined RAOs
- Identification and Screening of Technologies
- Development and Screening of Alternatives
 - Threshold Criteria
 - Overall Protection of Human Health and the Environment
 - Compliance with Standards, Criteria and Guidance (SCGs)
 - Primary Balancing Criteria
 - Long-term Effectiveness and Permanence
 - Reduction of Toxicity, Mobility or Volume of Contamination through Treatment
 - Short Term Impact and Effectiveness
 - Implementability
 - Cost Effectiveness
 - Land Use
 - Modifying Criteria
 - Community Acceptance
- Recommendation

Surface Water	Collection, Conveyance, and Treatment	Ditches	At grade surface water collection and conveyance.	Potentially applicable
		Catch Basins and Underground Stormwater Piping	Below grade surface water collection and conveyance.	Potentially applicable
		Rain Gardens	Collection ponds with passive plantings to filter and support native vegetation and wildlife habitat.	Potentially applicable
		Bio-retention Ponds	Collection ponds with active biological collection and passive treatment.	Potentially applicable
		Retention Ponds	Passive or Active collection and sedimentation pond(s). The active components can include aeration and filtration.	Potentially applicable
Remnant Materials Management	Buried Utility Management	No Action	No action of any utility that is not creating a conduit for migration of impacted water or acting as a source of compounds to groundwater.	Potentially applicable
		Reuse	Reuse of underground utilities that are suitable for long-term operation; electrical conduit, north-south storm sewer, etc.	Potentially applicable
		Crush and Use as Fill	Crush clean concrete underground utilities that do not meet the determination of solid waste and use as onsite fill below a cover system.	Potentially applicable
		Grout	Fill underground conduits in place that could provide a migration pathway.	Potentially applicable
		Removal and Offsite Disposal	Remove underground conduits that contain residuals that exceed SCGs or that provide a conduit for groundwater migration from the site.	Potentially applicable

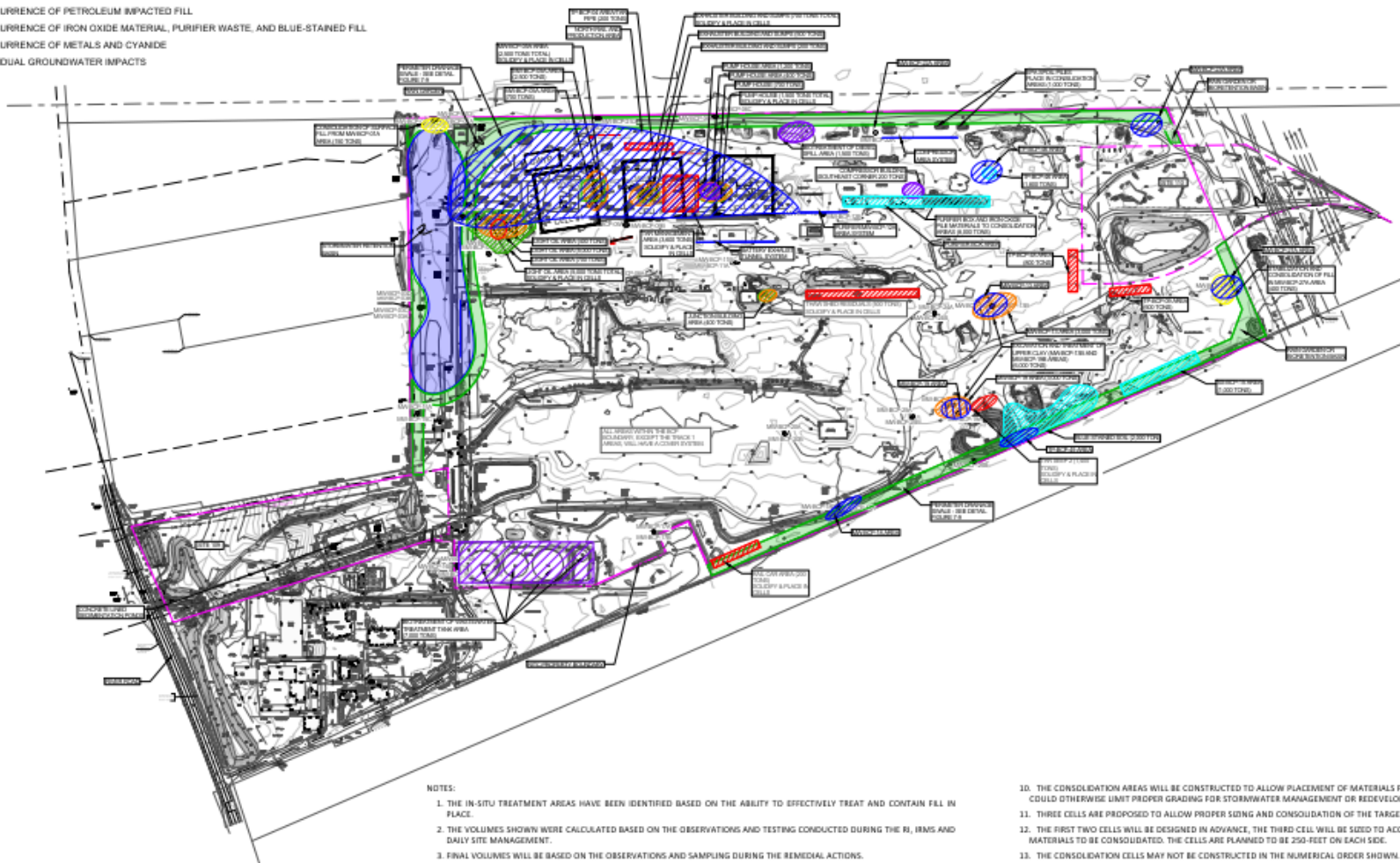
Page 4

General Response Action		Alternative											Comments
Technology Type	Process Option	Area or Volume		1	2	3	4	5	6	7	8		
		Quantity	Units	No Action	Source Containment	Source Containment, Groundwater Control	Source Containment, NAPL Stabilization, Groundwater Control	Insitu Stabilization, Containment, Groundwater Control	Ex Situ Thermal and Stabilization, Containment, Groundwater Control	Source Removal, Containment, Groundwater Control	Track 1 Cleanup		
Access Restrictions	Environmental Easement	Track 4 Area		✓	✓	✓	✓	✓	✓	✓			
	Deed Restriction - No Drinking Water Wells	Track 4 Area		✓		✓	✓	✓	✓	✓			
	Deed Restriction - No Residential Development	Track 4 Area		✓		✓	✓	✓	✓	✓	✓		
Routine Long-term Care	Site Management Plan	Track 4 Area			✓	✓	✓	✓	✓	✓			
	Excavation Work Plan	Track 4 Area			✓	✓	✓	✓	✓	✓			
	Stormwater Best Management Practices	Entire BCP Site			✓	✓	✓	✓	✓	✓			
Monitoring	Monitoring Surface for Erosion/damage	Entire BCP Site			✓	✓	✓	✓	✓	✓			
	Surface Water Monitoring	Entire BCP Site		✓	✓	✓	✓	✓	✓	✓			
	Groundwater Monitoring	Entire BCP Site			✓	✓	✓	✓	✓	✓			
Groundwater Treatment	Onsite Pre-treatment	Impacted Areas				✓	✓	✓	✓			Discharge to POTW v SPDES Permit Equivalence	
	Onsite Primary, Secondary and Tertiary Treatment	Impacted Areas							✓	✓		Capacity of 120 GPM, surface water discharge under SPDES Permit Equivalence	
Collection and Conveyance	Stormwater Management/Retention Ponds	7	Acres				✓	✓	✓		✓	The proposed retention pond(s) will occupy the northwest corner of the BCP Site.	
General Fill Exceeding Commercial SCDs													
Containment	Soil Cover				✓	✓	✓	✓	✓	✓	✓		
	Asphalt or Concrete Pavement	80	Acres		✓	✓	✓	✓	✓	✓	✓		
	Building or Structure				✓	✓	✓	✓	✓	✓	✓		
	Consolidation Areas	4.5	Acres									Entire Site less the retention pond and consolidation areas under Alternative No. 6. Topsoil cover required in Alternative No. 8 as vegetation will not grow effectively on clay. Other Covers Reduce to 35.5 Acres.	
Fill/Soil Excavation	Excavation and Onsite Placement	4.7	Acres		✓	✓	✓	✓	✓	✓	✓	Clear Perimeter of all soil that exceeds unrestricted SCDs	
	Excavation and Onsite Placement	1,000	Ton		✓	✓	✓	✓	✓	✓	✓	EPA Soil Piles	
	Excavation and Onsite Placement	160	Ton		✓	✓	✓	✓	✓	✓	✓	Fill moved to access viscous tar and NAPL	
	Excavation and Onsite Placement	0	Acres		✓	✓	✓	✓	✓	✓	✓	Clear Perimeter south of retention basin	
	Excavation and Onsite Placement	7	Acres		✓	✓	✓	✓	✓	✓	✓	Clear Retention Basin Area, use to fill low areas in Coke Yard	
	Excavation and Onsite Placement	23	Acres		✓	✓	✓	✓	✓	✓	✓	Regrade Coke Yard to eliminate low areas created by the coke recovery.	
	Excavation and Onsite Placement	5	Acres		✓	✓	✓	✓	✓	✓	✓	Final subgrade grading	
	Excavation and Onsite Placement	2,600	Ton		✓	✓	✓	✓	✓	✓	✓	Dredge pile near sedimentation pool #002	

Alternative	Description	Evaluation Criteria										
		Threshold Criteria				Primary Balancing Criteria					Modifying Considerations	
		Overall Protectiveness of the Public Health and the Environment	Compliance with Standards Criteria and Guidance (SCGs)	Long-term Effectiveness and Permanence	Reduction of Toxicity, Mobility or Volume of Contamination through Treatment	Short-term Impact and Effectiveness		Implementability	Cost Effectiveness	Land Use	Community Acceptance	Overall Score
Weighting Factor >>		10	10	8	8	5	4	6	4	4	N.A.	
1	No Action	0	0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2	Source Containment	5	5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
3	Source Containment, Groundwater Control	7	7	8	5	7	5	8	10	8	To be determined	419
4	Source Containment, NAPL Solidification, Groundwater Control	10	10	10	7	9	5	7	9	9	To be determined	515
5	In Situ Stabilization, Containment, Groundwater Control	10	10	10	9	9	5	7	8	10	To be determined	531
6	Ex Situ Thermal and Stabilization, Containment, Groundwater Control	10	10	10	9	7	2	4	4	8	To be determined	467
7	Source Removal, Containment, Groundwater Control	7	10	10	9	6	2	3	4	5	To be determined	414
8	Track 4 Remediation	5	10	10	10	2	2	0	0	10	To be determined	368
2. The Overall Score is the sum of the products of the weighting factors and the individual score. 3. Community Acceptance cannot be evaluated until after the Draft Alternative Analysis has a public comment period, hence the TBD reference.												

LEGEND

- PERIMETER FILL REMOVAL AREA (TRACK 1)
- STORM WATER RETENTION BASIN (TRACK 1)
- OCCURRENCE OF VISCOUS TAR
- OCCURRENCE OF NAPL
- OCCURRENCE OF VOC IMPACTED FILL
- OCCURRENCE OF PETROLEUM IMPACTED FILL
- OCCURRENCE OF IRON OXIDE MATERIAL, PURIFIER WASTE, AND BLUE-STAINED FILL
- OCCURRENCE OF METALS AND CYANIDE
- RESIDUAL GROUNDWATER IMPACTS



NOTES:

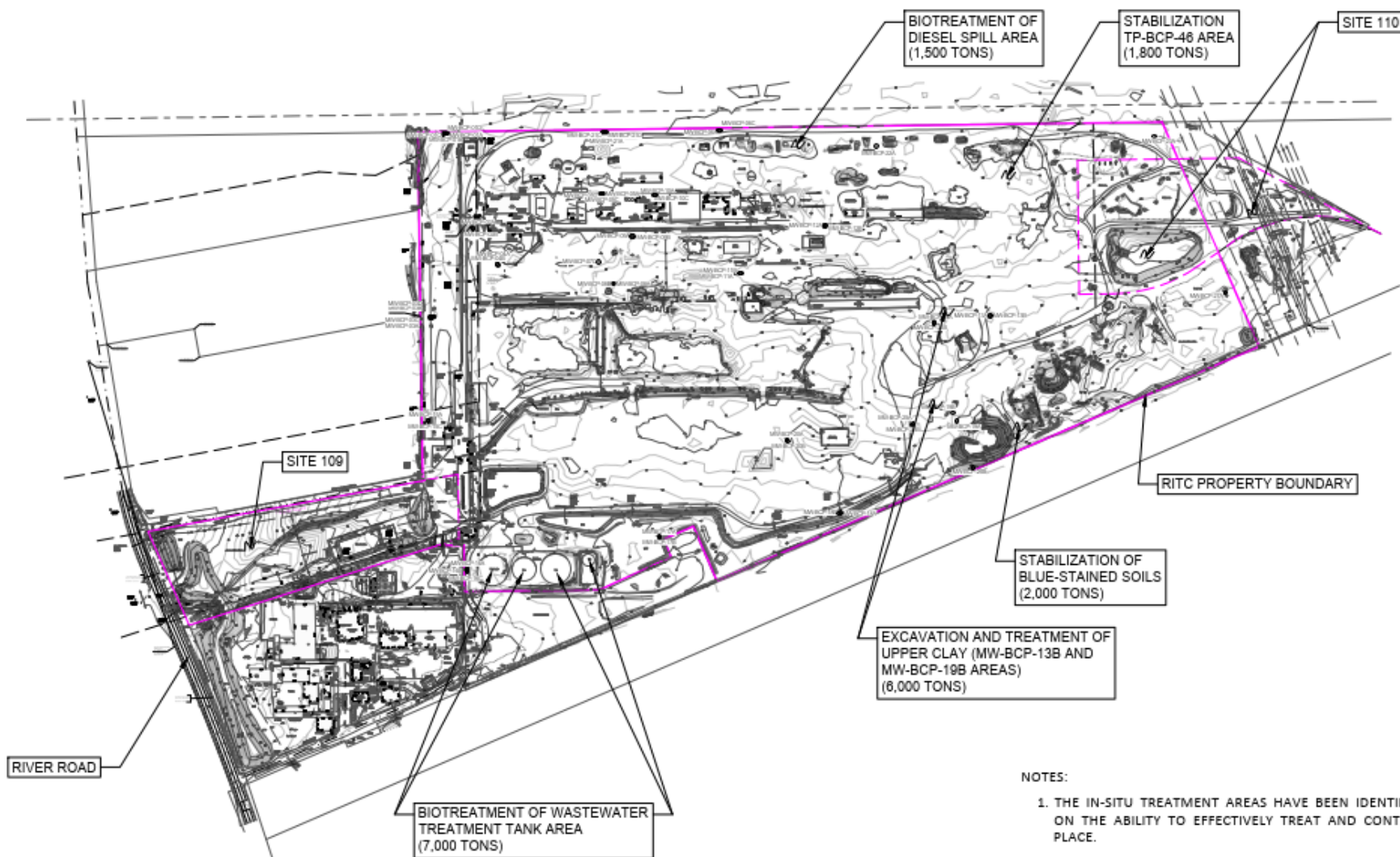
1. THE IN-SITU TREATMENT AREAS HAVE BEEN IDENTIFIED BASED ON THE ABILITY TO EFFECTIVELY TREAT AND CONTAIN FILL IN PLACE.
2. THE VOLUMES SHOWN WERE CALCULATED BASED ON THE OBSERVATIONS AND TESTING CONDUCTED DURING THE RI, IRMS AND DAILY SITE MANAGEMENT.
3. FINAL VOLUMES WILL BE BASED ON THE OBSERVATIONS AND SAMPLING DURING THE REMEDIAL ACTIONS.
4. THE MATERIALS IN AREAS TO BE PLACED IN THE CONSOLIDATION AREAS (FIGURE 7-5) HAVE BEEN IDENTIFIED BASED ON MATERIALS THAT WOULD ADVERSELY AFFECT THE STORMWATER MANAGEMENT OR EXCAVATION DURING REDEVELOPMENT.
5. THE VOLUMES SHOWN WERE CALCULATED BASED ON THE OBSERVATIONS AND TESTING CONDUCTED DURING THE RI, IRMS AND DAILY SITE MANAGEMENT.
6. FINAL VOLUMES WILL BE BASED ON THE OBSERVATIONS AND SAMPLING DURING THE REMEDIAL ACTIONS.
7. THE EXISTING FILL AROUND THE PERIMETER OF THE BCP SITE VARIES FROM 6- TO 36-INCHES THICK.
8. THE FILL AROUND THE PERIMETER WILL BE REMOVED AND PLACED AS FILL WITHIN THE BCP SITE. SEE DETAIL ON FIGURE 7-9.
9. THE STORMWATER RETENTION BASIN AND PERIMETER BUFFER AREAS WILL BE EXCAVATED TO THE UNDERLYING CLAY AND WILL MEET TRACK 1 STANDARDS.

10. THE CONSOLIDATION AREAS WILL BE CONSTRUCTED TO ALLOW PLACEMENT OF MATERIALS FROM WITHIN THE BCP SITE THAT COULD OTHERWISE LIMIT PROPER GRADING FOR STORMWATER MANAGEMENT OR REDEVELOPMENT.
11. THREE CELLS ARE PROPOSED TO ALLOW PROPER SLOPE AND CONSOLIDATION OF THE TARGET MATERIALS.
12. THE FIRST TWO CELLS WILL BE DESIGNED IN ADVANCE. THE THIRD CELL WILL BE SIZED TO ACCOMMODATE THE REMAINING MATERIALS TO BE CONSOLIDATED. THE CELLS ARE PLANNED TO BE 250-FEET ON EACH SIDE.
13. THE CONSOLIDATION CELLS MAY NOT BE CONSTRUCTED IN THE NUMERICAL ORDER SHOWN.
14. GROUNDWATER COLLECTION TRENCHES NOS. 1 AND 2 WILL BE RELOCATED TO THE SOUTH OF THE CONSOLIDATION CELL AREAS. ALL SHALLOW GROUNDWATER AT THE EXISTING COLLECTION TRENCH NO. 1 AND NO. 2 LOCATIONS WILL BE ELIMINATED.
15. THE PROPOSED LONG-TERM GROUNDWATER TREATMENT PLANT (LGTWP) WILL BE LOCATED NORTH OF THE CONSOLIDATION CELLS AND WILL BE CONSTRUCTED AND STARTUP TESTING WILL BE COMPLETE BEFORE THE EXISTING FACILITY IN THE MAINTENANCE BUILDING IS REMOVED FOR CONSOLIDATION AREA CONSTRUCTION.

D

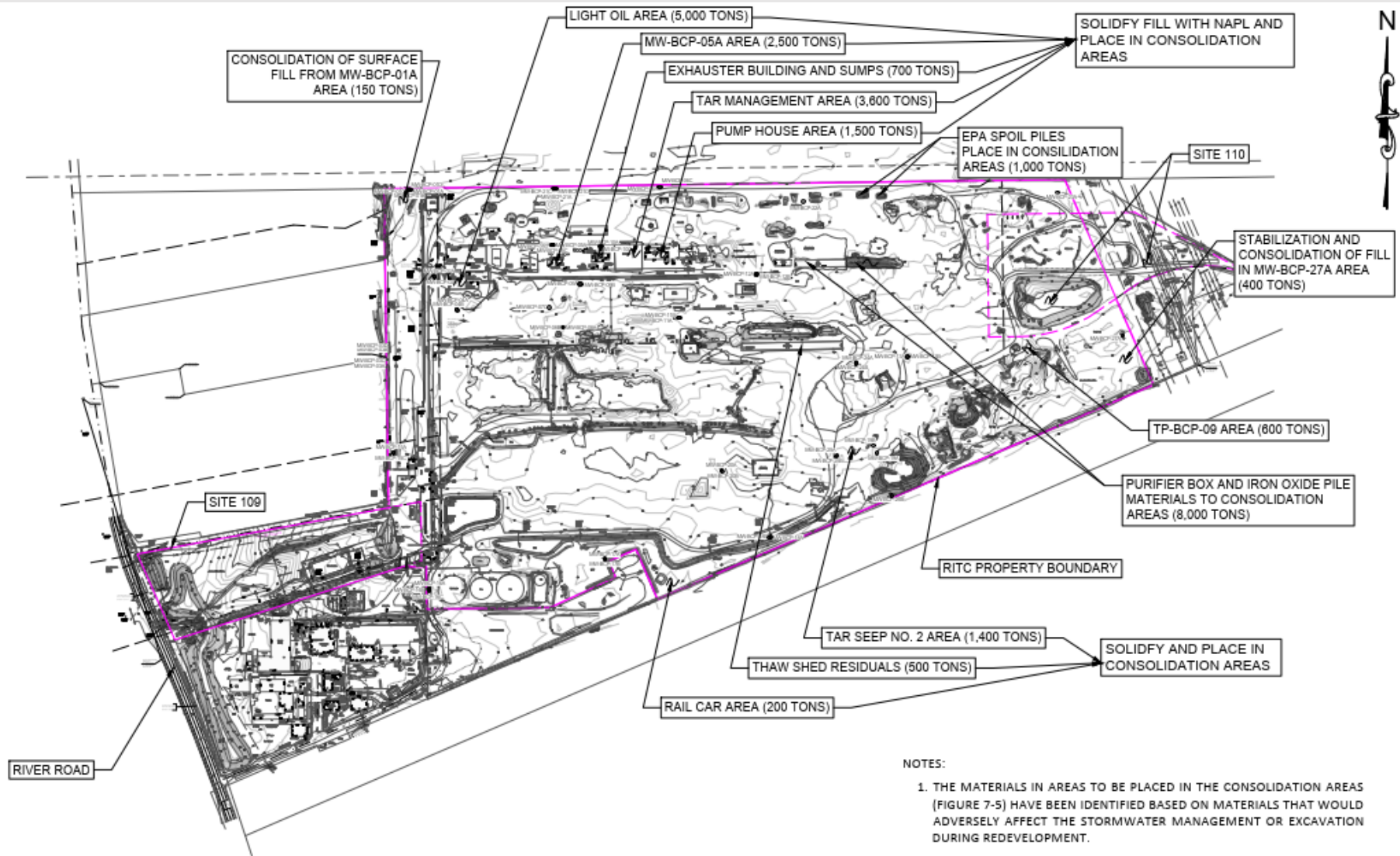


Reference: Vegetation Boundary (Map Showing) Topographic Survey of Property (Geometric) RiverView Innovation & Technology Campus Inc. April 2018



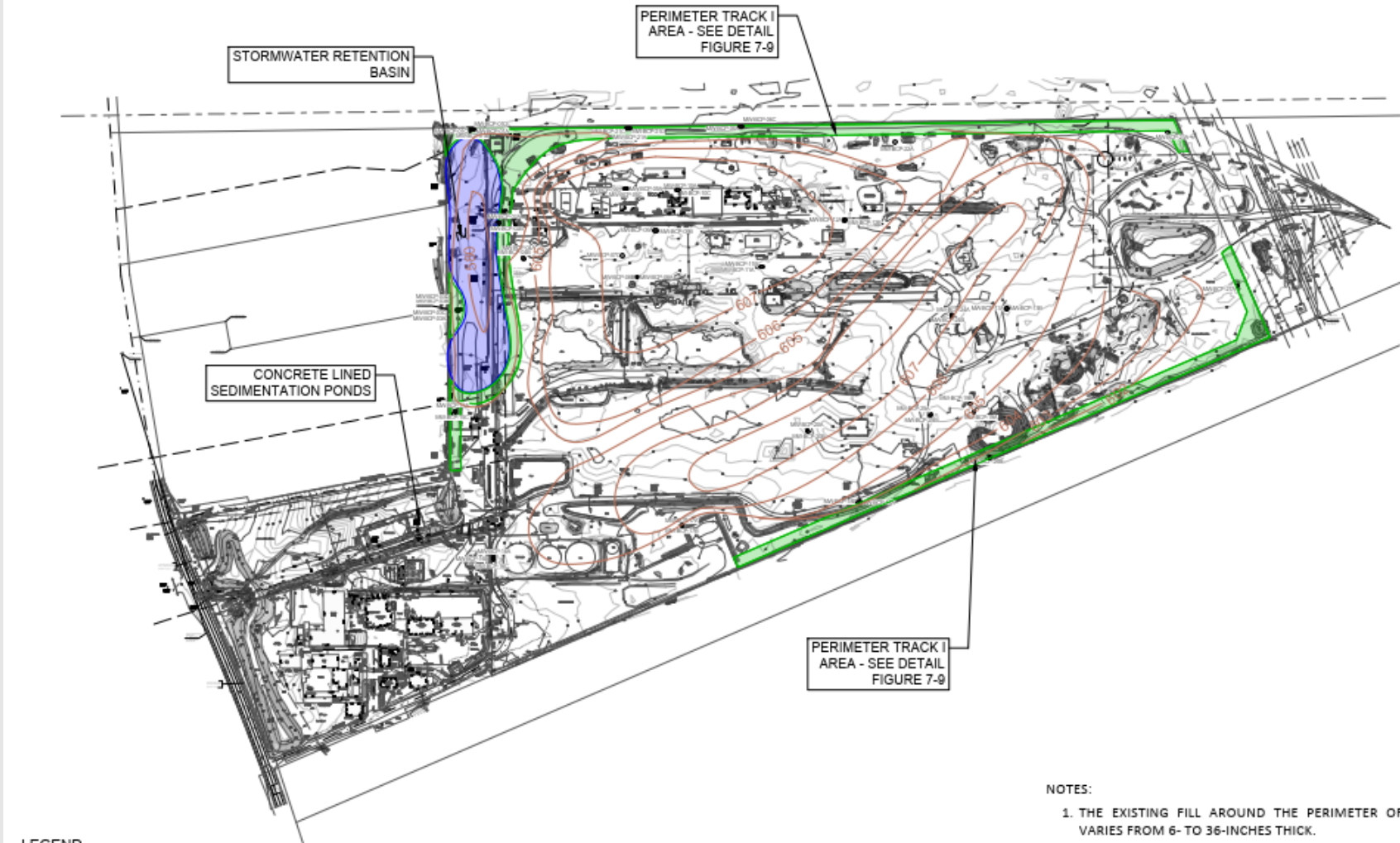
NOTES:

1. THE IN-SITU TREATMENT AREAS HAVE BEEN IDENTIFIED BASED ON THE ABILITY TO EFFECTIVELY TREAT AND CONTAIN FILL IN PLACE.
2. THE VOLUMES SHOWN WERE CALCULATED BASED ON THE OBSERVATIONS AND TESTING CONDUCTED DURING THE RI, IRMS AND DAILY SITE MANAGEMENT.
3. FINAL VOLUMES WILL BE BASED ON THE OBSERVATIONS AND SAMPLING DURING THE REMEDIAL ACTIONS.



NOTES:

1. THE MATERIALS IN AREAS TO BE PLACED IN THE CONSOLIDATION AREAS (FIGURE 7-5) HAVE BEEN IDENTIFIED BASED ON MATERIALS THAT WOULD ADVERSELY AFFECT THE STORMWATER MANAGEMENT OR EXCAVATION DURING REDEVELOPMENT.
2. THE VOLUMES SHOWN WERE CALCULATED BASED ON THE OBSERVATIONS AND TESTING CONDUCTED DURING THE RI, IRMS AND DAILY SITE MANAGEMENT.
3. FINAL VOLUMES WILL BE BASED ON THE OBSERVATIONS AND SAMPLING DURING THE REMEDIAL ACTIONS.



NOTES:

1. THE EXISTING FILL AROUND THE PERIMETER OF THE BCP SITE VARIES FROM 6- TO 36-INCHES THICK.
2. THE FILL AROUND THE PERIMETER WILL BE REMOVED AND PLACED AS FILL WITHIN THE BCP SITE. SEE DETAIL ON FIGURE 7-9.
3. THE STORMWATER RETENTION BASIN AND PERIMETER BUFFER AREAS WILL BE EXCAVATED TO THE UNDERLYING CLAY AND WILL MEET TRACK 1 STANDARDS.

LEGEND

- PERIMETER FILL REMOVAL AREA (TRACK 1)
- STORM WATER RETENTION BASIN (TRACK 1)



 EXPERIENCE

 COMMITMENT

3821 River Road

 VISION

 INNOVATION





