

SECTION 26, TOWNSHIP 17 NORTH, RANGE 5 WEST, TOWN OF McCORDSVILLE, HANCOCK COUNTY, INDIANA



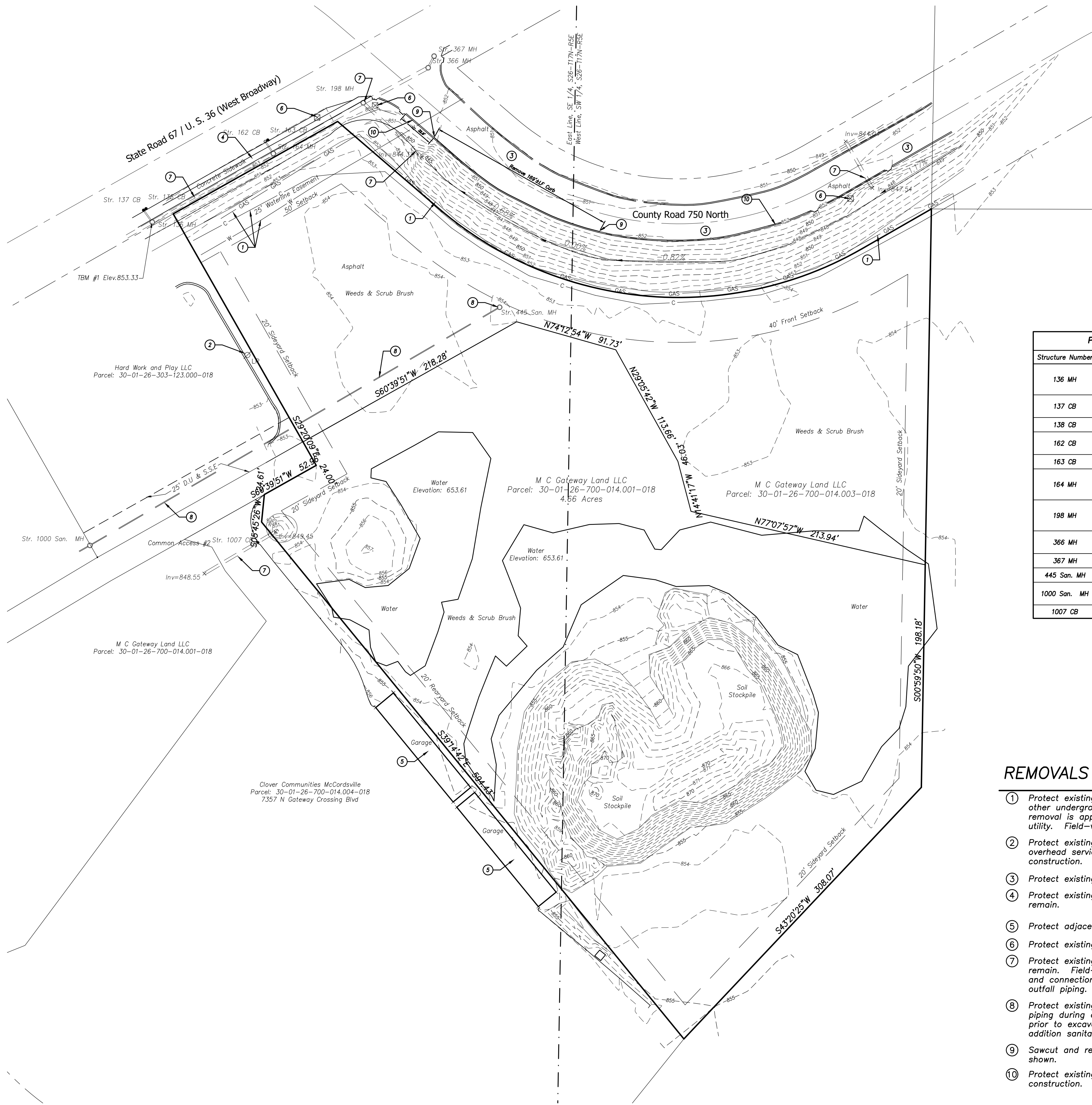
888-243-1974

CALL 811 OR (800) 382-5544
24 HOURS A DAY, SEVEN DAYS A WEEK



Real America
8250 Dean Road
Indianapolis, IN 46240
(317) 680-2484

09/19/2023 12:22:55 PM



BENCHMARK

Benchmark (TBM #1): Storm
Structure 136 RIM: 853.33

Proposed Structure Table		
Structure Number	Rim Elevation	Invert Elevations
136 MH	853.33	INV. NE = 843.57 30" RCP INV. NW = 846.10 12" PVC INV. SW = 843.57 30" RCP
137 CB	852.50	INV. NE = 846.60 12" RCP INV. SE = 846.60 12" PVC
138 CB	852.50	INV. SW = 846.60 12" RCP
162 CB	852.96	INV. NE = 848.86 12" RCP INV. SE = 848.86 12" PVC
163 CB	852.92	INV. SW = 848.86 12" RCP
164 MH	853.75	INV. NW = 848.70 12" PVC INV. SW = 843.89 30" RCP INV. NE = 843.90 30" RCP
198 MH	852.64	INV. SW = 843.89 30" RCP INV. NE = 843.90 30" RCP INV. SE = 844.25 24" RCP
366 MH	852.46	INV. SW = 843.60 30" RCP INV. NE = 843.60 12" RCP
367 MH	852.66	INV. SW = 843.60 12" RCP
445 San. MH	854.25	INV. SW = 847.66 8" PVC
1000 San. MH	853.41	INV. NE = 845.42 8" PVC INV. SW = 845.42 8" PVC
1007 CB	853.44	

REMOVALS KEYNOTE LEGEND

- 1 Protect existing water, gas, communications and other underground utility lines to remain unless removal is approved and coordinated with local utility. Field-verify location prior to excavation.
- 2 Protect existing light or utility pole and overhead service lines to remain during construction.
- 3 Protect existing asphalt pavement to remain.
- 4 Protect existing concrete walk or pavement to remain.
- 5 Protect adjacent structures during construction.
- 6 Protect existing signage during construction.
- 7 Protect existing storm structures and lines to remain. Field-verify location prior to excavation and connection of proposed stormwater pond outfall piping.
- 8 Protect existing sanitary sewer structures and piping during construction. Field-verify location prior to excavation and connection to proposed addition sanitary lateral.
- 9 Sawcut and remove curb and gutter to limits shown.
- 10 Protect existing curb and gutter during construction.

SYMBOLS LEGEND

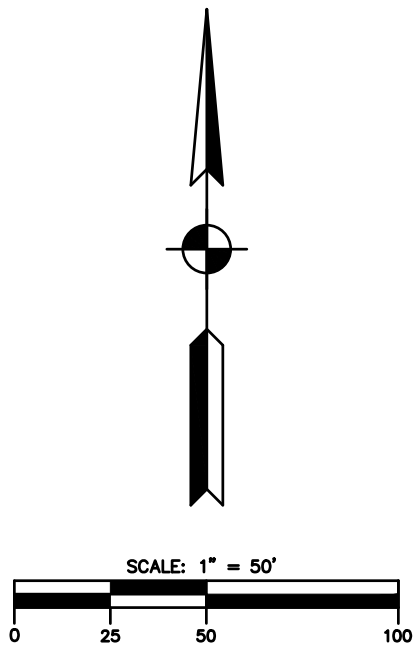
- CB — Bollard
- CB — Catch Basin
- CO — Clean Out
- ELEC — Electric Transformer
- ⊕ — Fiber Optic
- ⊕ — Fire Hydrant
- ⊕ — Gas Locate
- ⊕ — Gas Meter
- — Guy Wire
- MH — Manhole
- ⊘ PP — Power Pole
- ⊘ PP/D — Power Pole with Drop
- ⊘ PP/L — Power Pole with Light
- SMH — Sanitary Manhole
- STMH — Storm Manhole
- ⊕ W — Water Locate
- ⊕ W — Water Meter
- ⊕ W — Water Valve
- Chain Link Fence
- Fiber Optic Line
- Gas Line
- OHU — Overhead Utility
- T — Underground Telephone/Communications Line
- E — Underground Electrical Line
- W — Water Service or Main
- Storm Drain
- Sanitary Sewer

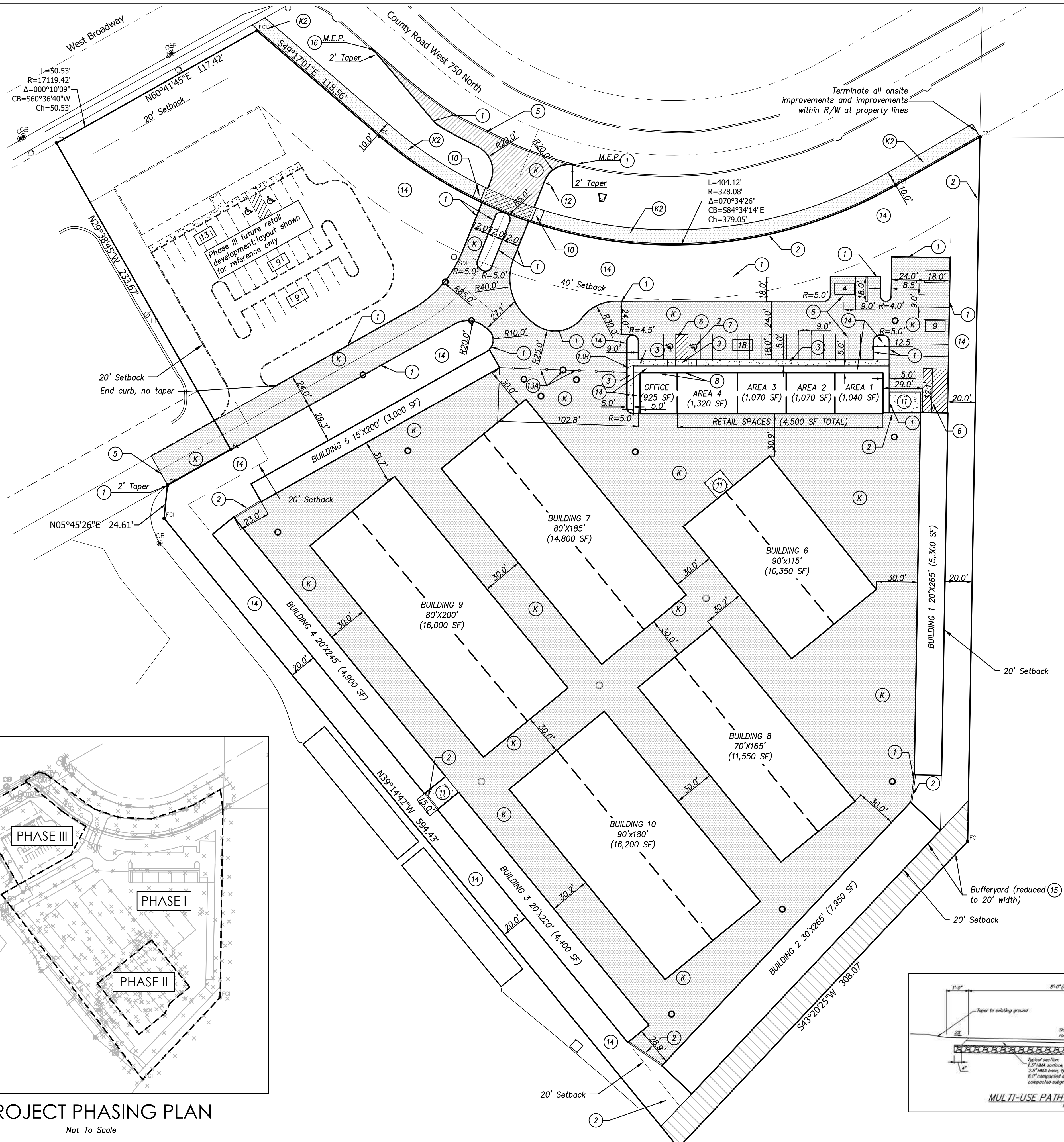
SURVEY NOTES

1. Field work completed February 23–April 15, 2022.
2. The depiction of underground utilities hereon should not be considered exact or complete. Underground utilities are based on the location of the painted marks or flags provided by the Indiana 811 utility location service, ticket number 2203111066. Call Indiana 811 prior to any excavation operation.
3. Property lines and their associated bearings and distances are based on the record information from deed or recorded plat.
4. This drawing is not intended to be represented as a retracement or original boundary survey, a route survey, or a Surveyor Location Report.

GENERAL CONTRACTOR NOTES

- 1) While reasonable effort has been undertaken to provide accurate data of existing conditions, available information may not be complete. Contractor is responsible to field-locate and identify all existing utilities prior to construction.
- 2) Contractor shall not store construction or debris materials in areas of Owner access or parking and shall not interfere with Owner activities. Do not store or stage materials or work on adjacent properties without Owner(s) approval.
- 3) Contractor shall designate a specified staging area for recycling, crushing or reusing any existing salvageable pavement or other materials.
- 4) Contractor shall dispose of debris materials offsite in a lawful manner.





GENERAL NOTES

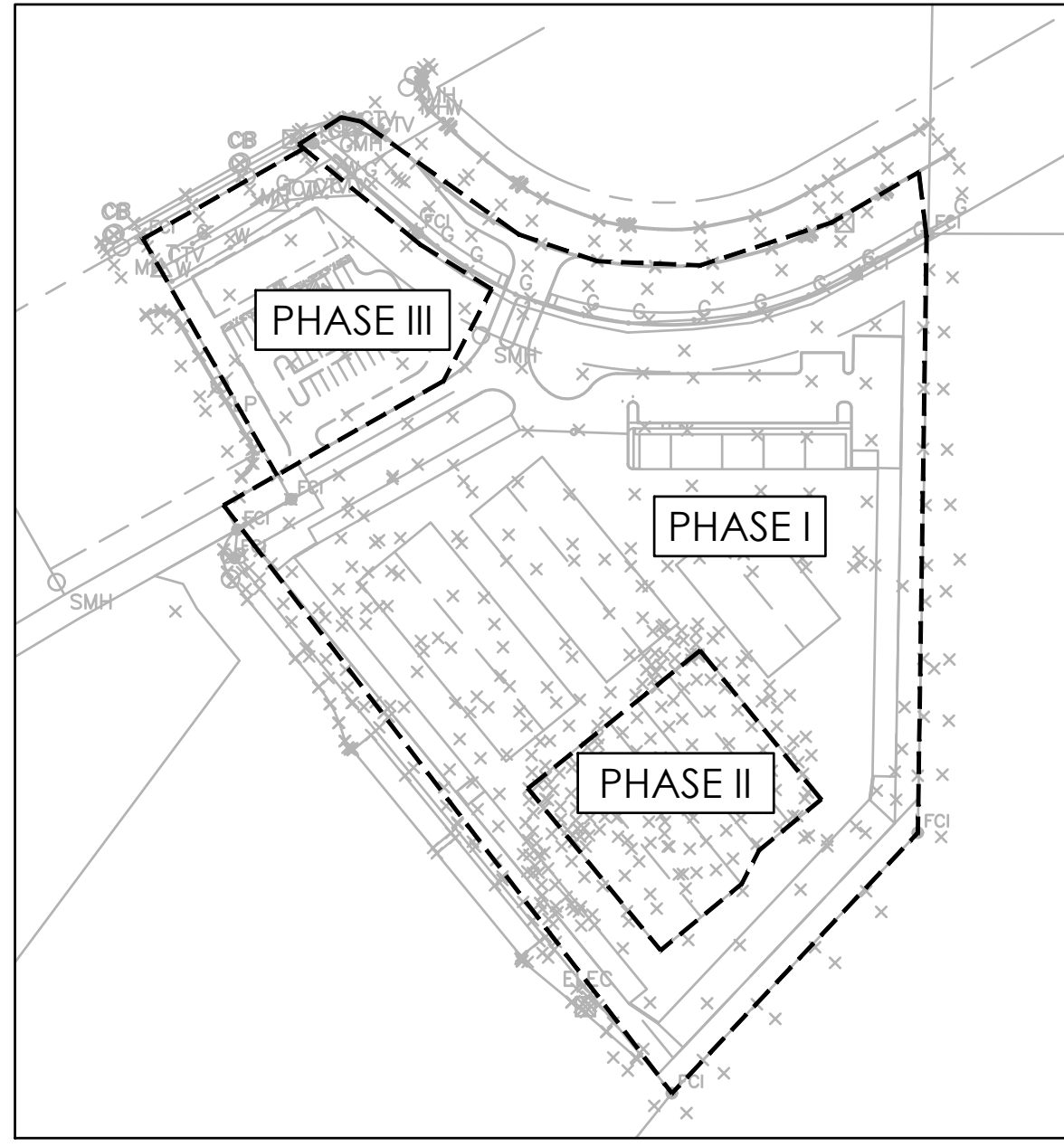
Existing Land Use: Vacant
Proposed Land Use: Commercial
Proposed Total Building Area = 82,400 SF
Zoning: PUD – Planned Urban Development

Parking required:
*Phases I and II
Storage buildings (89,550 SF total) @ 1 space / 5,000 SF + 1 per employee on largest shift (1) = 19 spaces
Office (925 SF) – 1 space / 300 SF + 1 per employee on largest shift (1) = 4 spaces
Retail suites (4,500 SF total) 1 space / 300 SF + 1 per employee on largest shift (1 presumed each suite) = 20 spaces
43 total spaces required, including 2 accessible spaces (31 spaces provided, including 2 accessible spaces)
*Phase III
Retail building (4,830 SF) 1 space / 300 SF + 1 per employee on largest shift (10) = 26 spaces required, including 2 accessible spaces (31 spaces provided, including 2 accessible spaces).

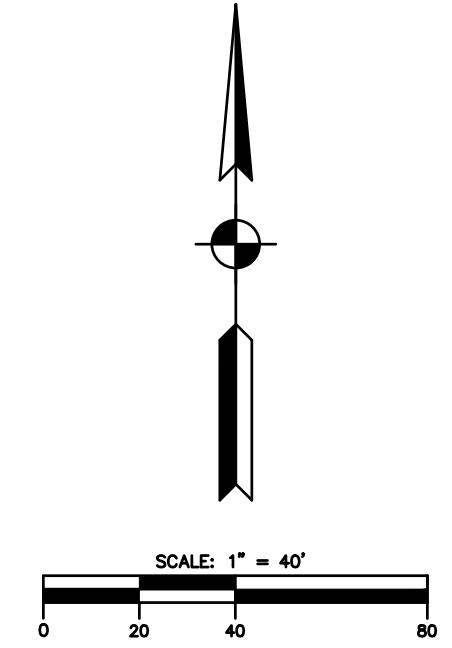
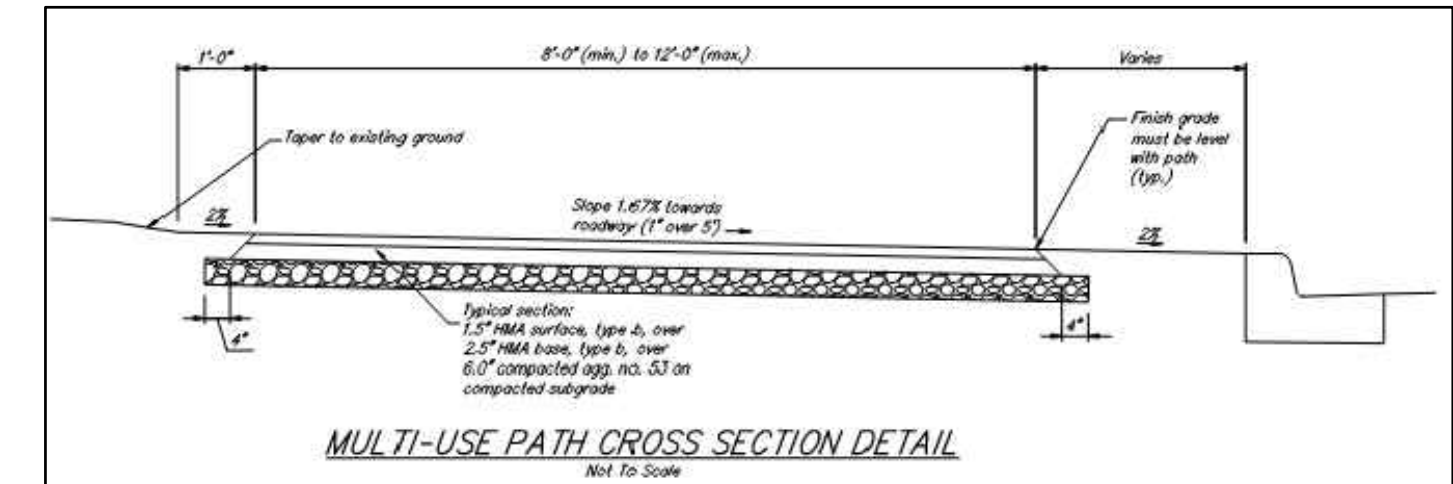
- The project shall be serviced by the Town of McCordsville Utilities for stormwater and Citizens Water for water.
- Proposed setbacks and/or right-of-way dedications shall conform to the Town of McCordsville Zoning Ordinance unless the proper variances have been requested and approved.
- The Site/Building drainage shall be managed onsite with a controlled release rate into the Town of McCordsville municipal stormwater system.
- Proposed parking areas and drives shall be paved and privately owned.
- All dimensions shown for pavement and curb are to face of curb or edge of pavement unless otherwise noted.
- See Architectural Plans for all building dimensions, locations of entrances for alignment of pavement and stoops, and location of utility connections.

KEYNOTE LEGEND

(K)	Standard-Duty HMA Asphalt Pavement
(K1)	Standard-Duty HMA Asphalt Pavement within right-of-way, modify per additional Town or INDOT standards if required
(K2)	Asphalt Trail Pavement
(1)	Monolithic Curbing
(2)	6' Height Masonry Perimeter Wall, material and style per Town of McCordsville PUD ordinance, by Others
(3)	Integral Curb and Walk
(4)	4" Depth Concrete Walk
(5)	Match and align at existing pavement or curbing (M.E.P.)
(6)	4" Width Parking Striping (Color and Location to Match Existing) or other pavement markings
(7)	ADA International Symbol of Accessibility
(8)	Accessible Space Signage (Wall-Mount)
(9)	In-line Accessible Ramp, broom finish and no tactile surface
(10)	Accessible Ramp With Tactile Surface, match intersection angles
(11)	Dumpster Pad (15'x15' Heavy-Duty Concrete Pavement), see Arch. Plans for Wall Enclosure and Gates
(12)	Stop Sign
(13A)	2 Entrance Swing Gates with 6' Height Chain Link Fence; 5' diameter monolithic curbing and 4" depth concrete base for entrance gate apparatus with electronic entrance coded lock (by Others)
(13B)	Man Gate with 6' Height Chain Link Fence, extend all fencing to buildings as shown
(14)	Greenspace
(15)	Bufferyard (25' Width) – see Planting Plans
(16)	Curb And Gutter – match existing within right-of-way
XX	Parking Spaces Per Bay (9'x18' Stall Typical)



PROJECT PHASING PLAN
Not To Scale



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Lafayette
Crown Point
Lafayette, IN 47901
7725 225th Ave
Grand Haven
Hobart
Valparaiso
abonmarche.com

Engineering - Architecture - Land Surveying

**GATEWAY CROSSING
McCORDSVILLE, INDIANA**

PROJECT:

SHEET TITLE:

DRAWN BY:
EJF

DESIGNED BY:
SRF

PM REVIEW:
SRF

QA/QC REVIEW:
RSP

DATE:
09/08/2023

SEAL:

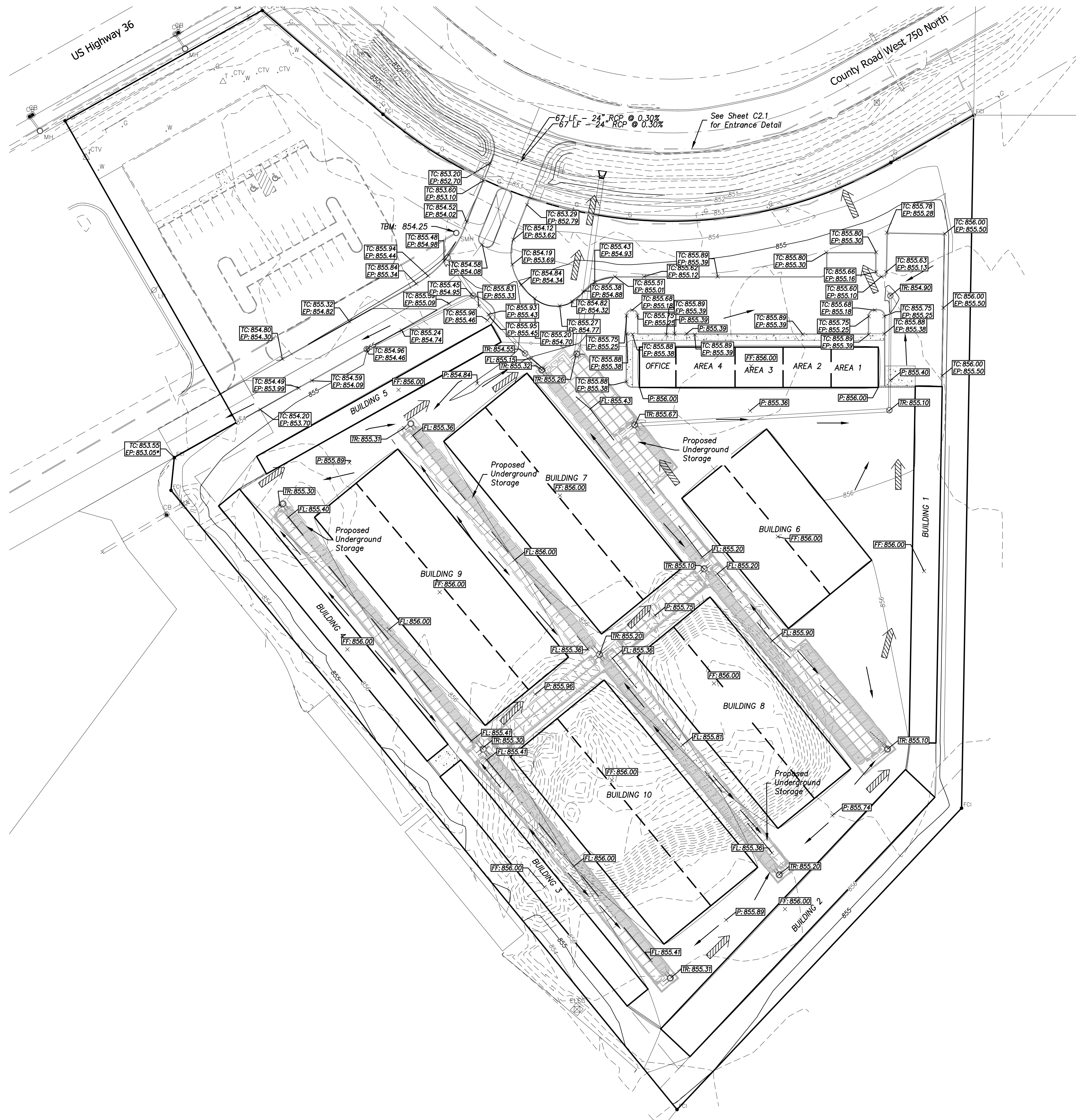
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DATE:

SCALE:
HORIZ: 1" = 40'
VERT: N/A

ACI JOB #
22-0218

SHEET NO.
C1.0

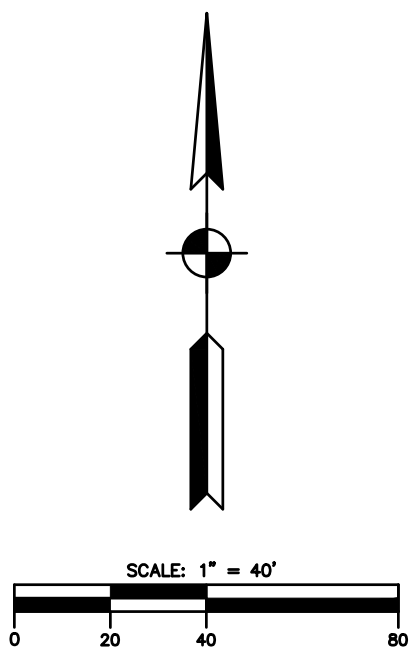


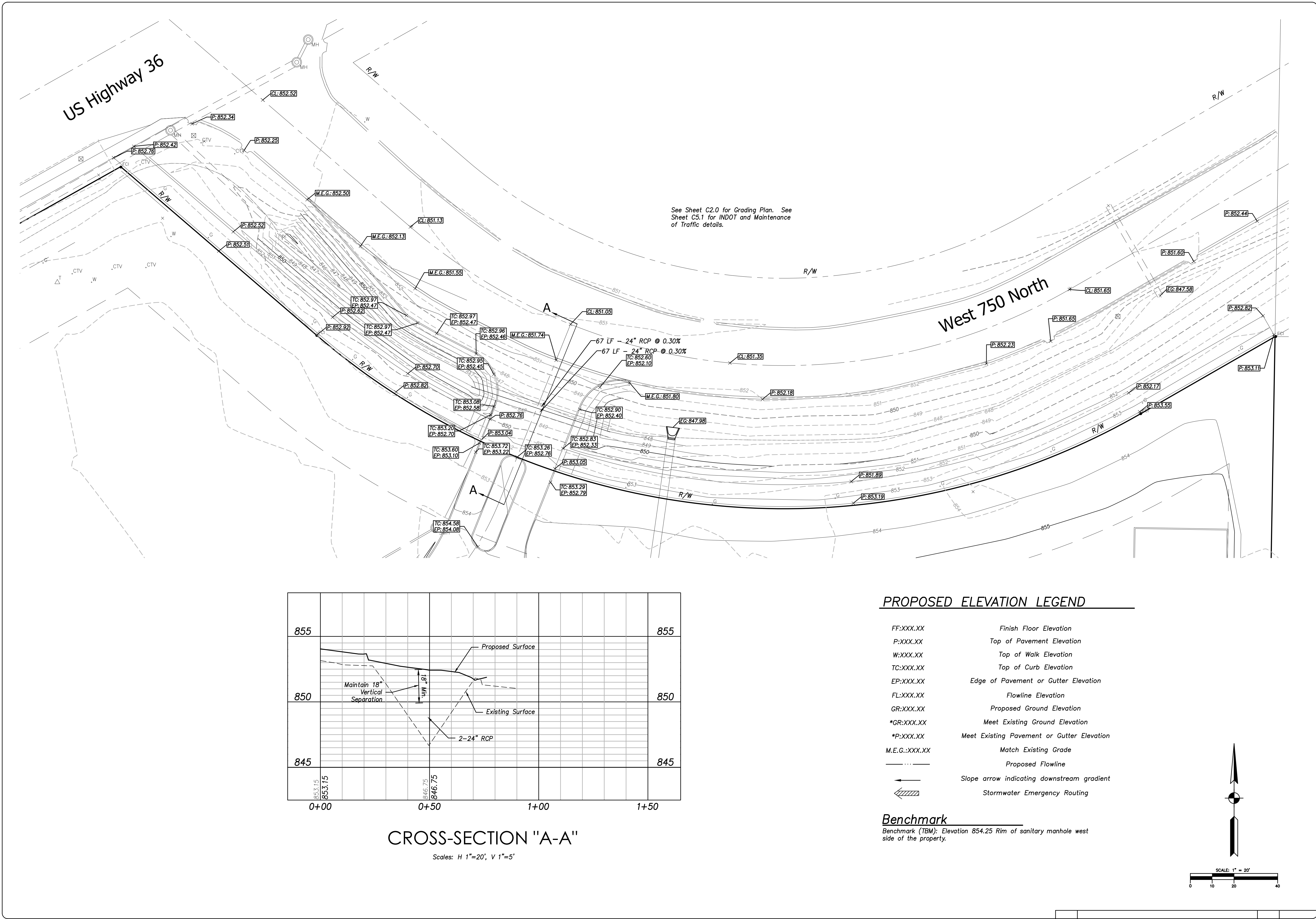
PROPOSED ELEVATION LEGEND

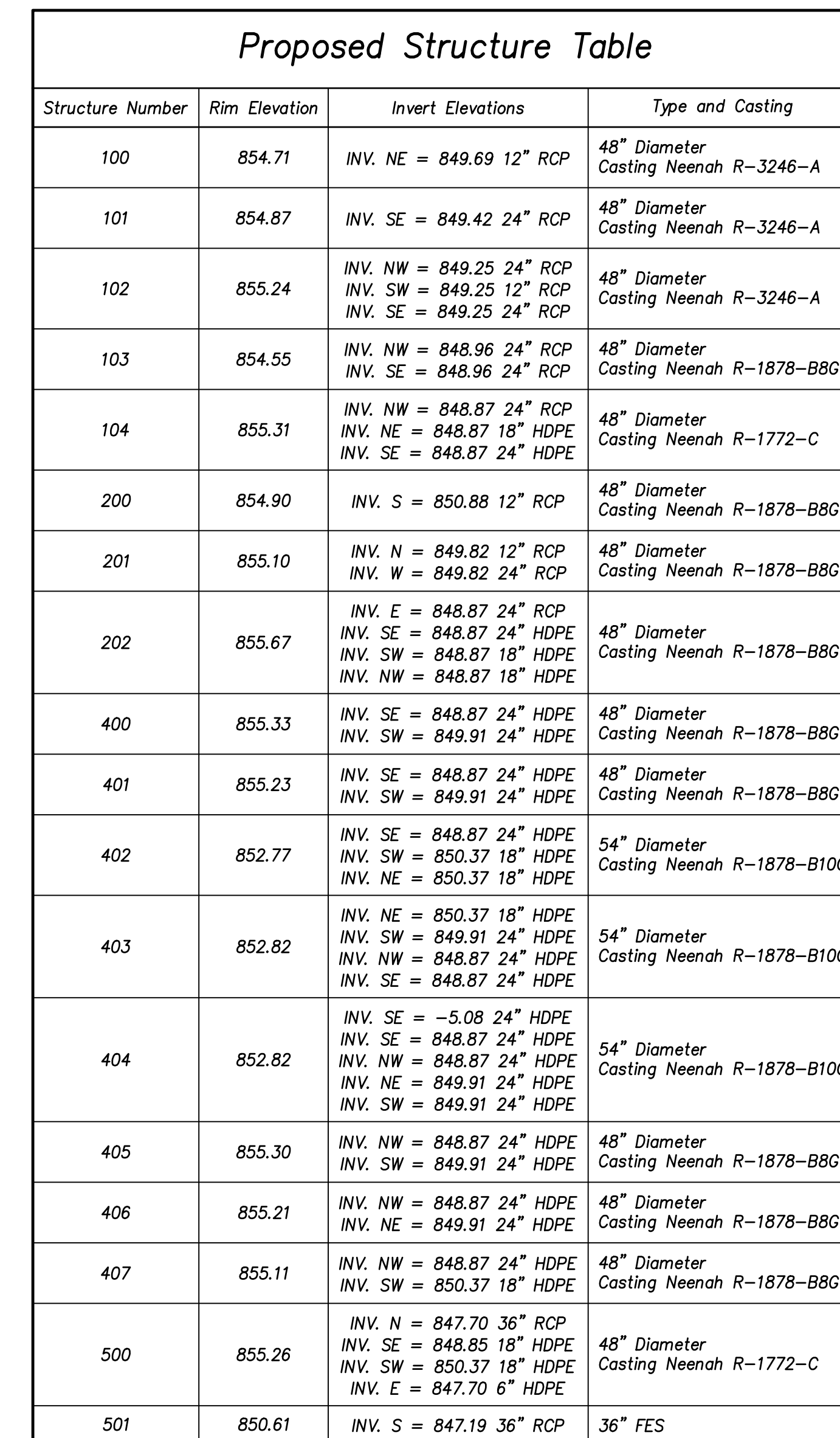
FF:XXX.XX	Finish Floor Elevation
P:XXX.XX	Top of Pavement Elevation
W:XXX.XX	Top of Walk Elevation
TC:XXX.XX	Top of Curb Elevation
EP:XXX.XX	Edge of Pavement or Gutter Elevation
FL:XXX.XX	Flowline Elevation
GR:XXX.XX	Proposed Ground Elevation
*GR:XXX.XX	Meet Existing Ground Elevation
*P:XXX.XX	Meet Existing Pavement or Gutter Elevation
M.E.G.:XXX.XX	Match Existing Grade
---	Proposed Flowline
→	Slope arrow indicating downstream gradient
▨	Stormwater Emergency Routing

Benchmark

Benchmark (TBM): Elevation 854.25 Rim of sanitary manhole west side of the property.

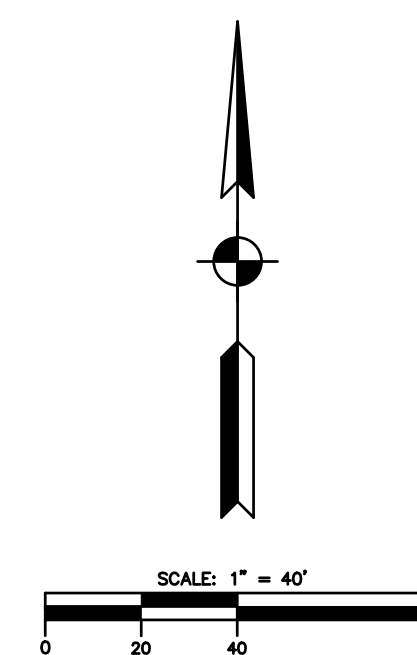


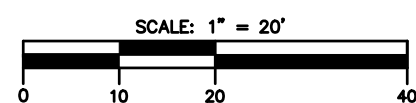
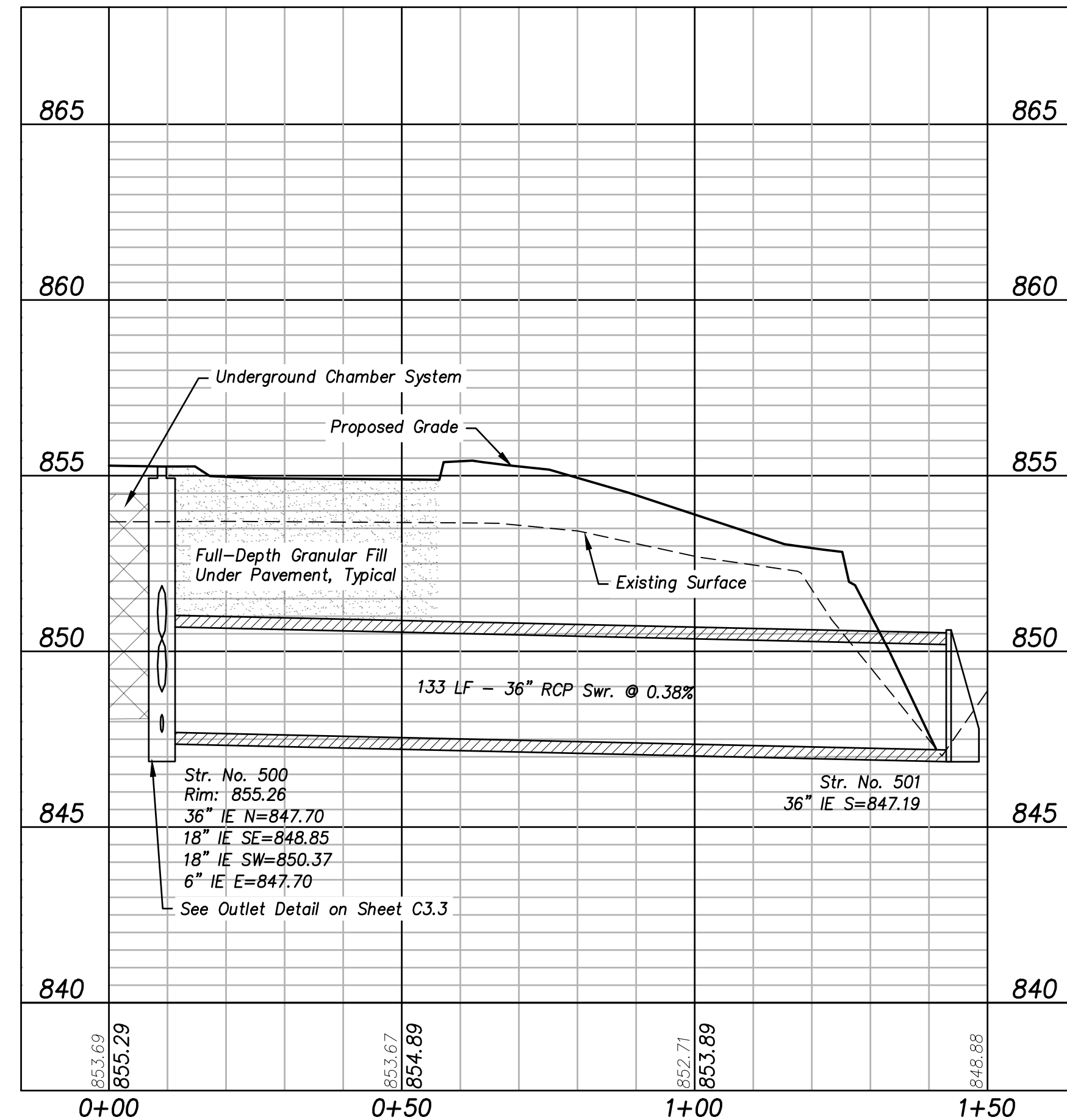
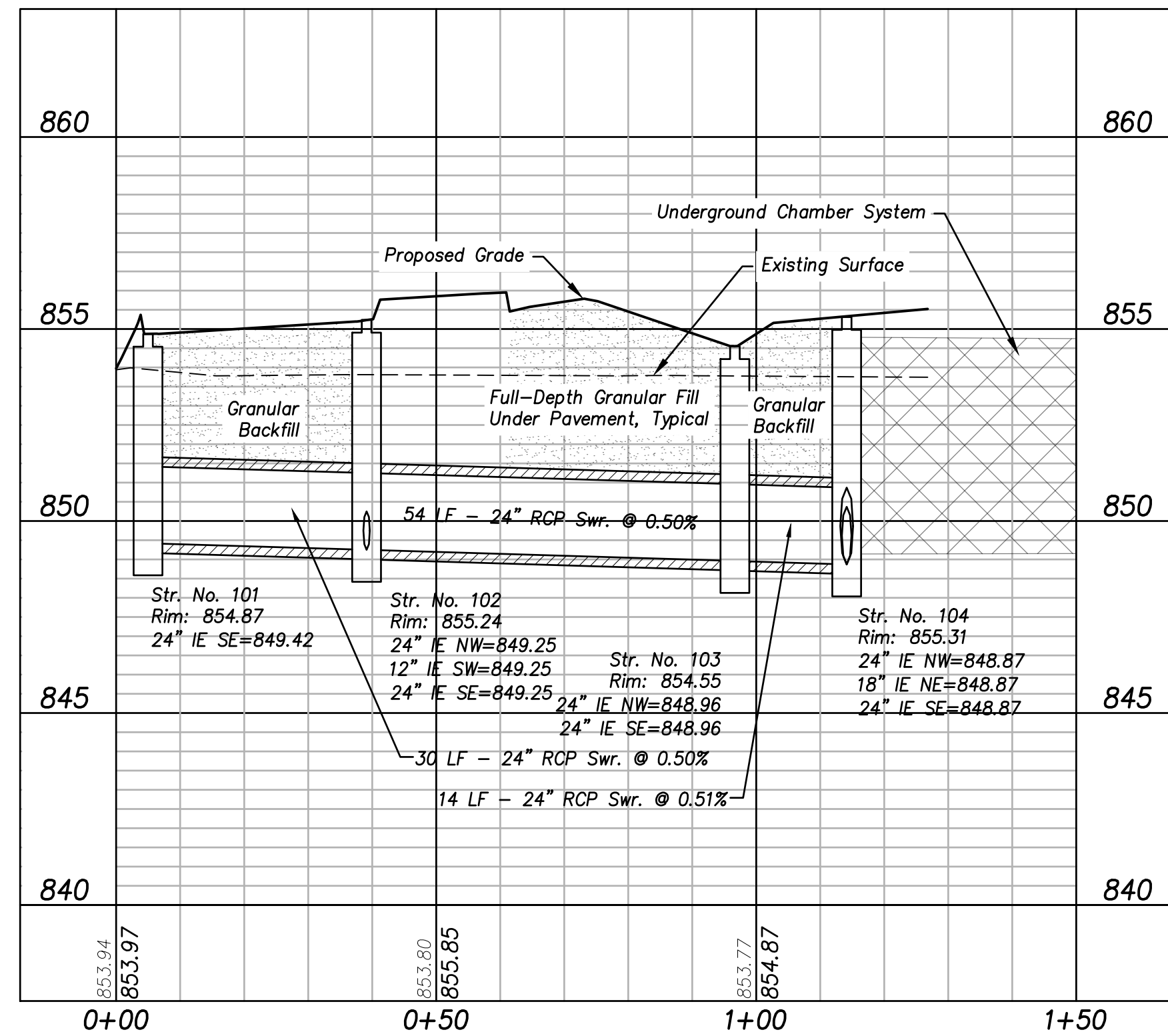
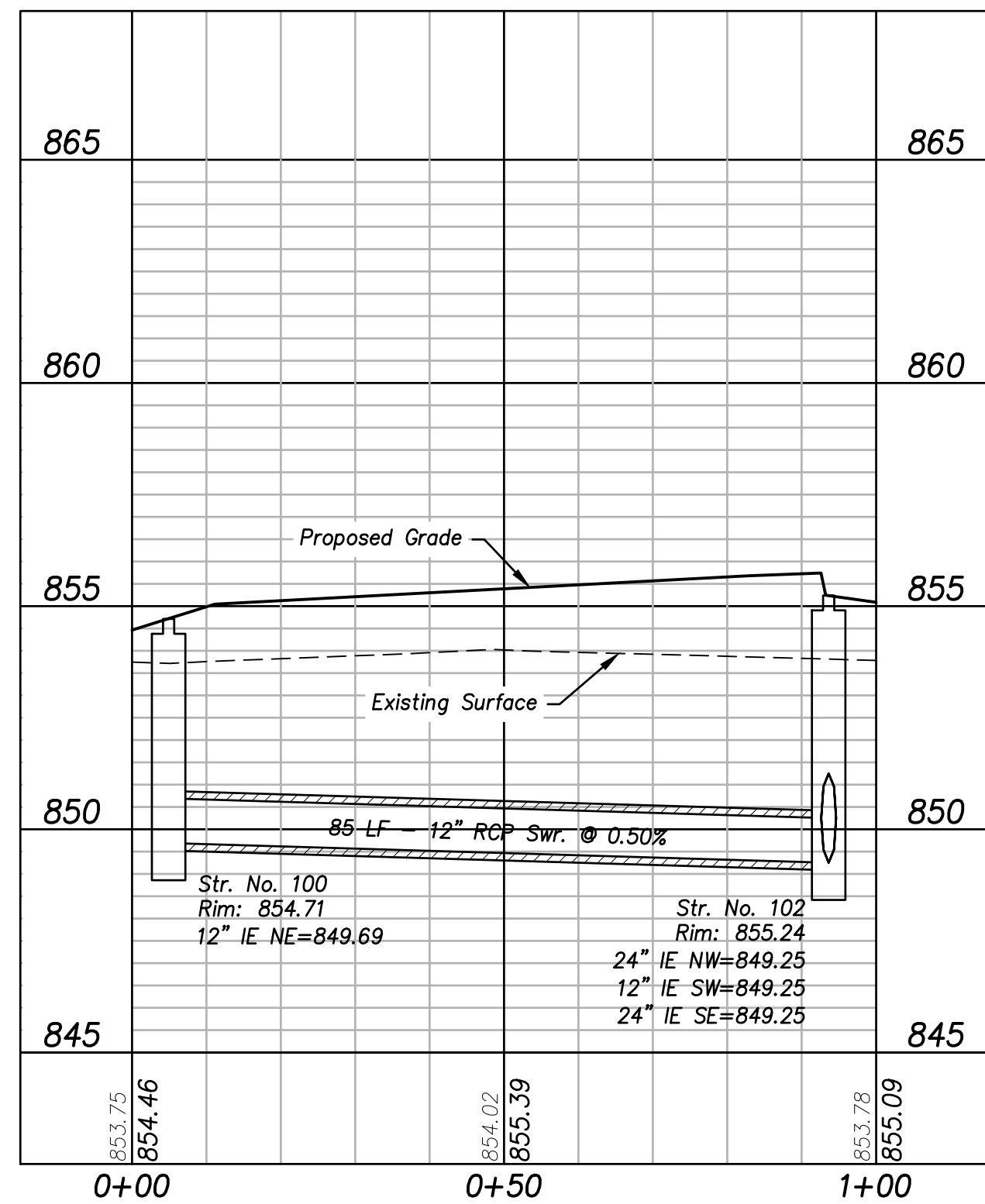
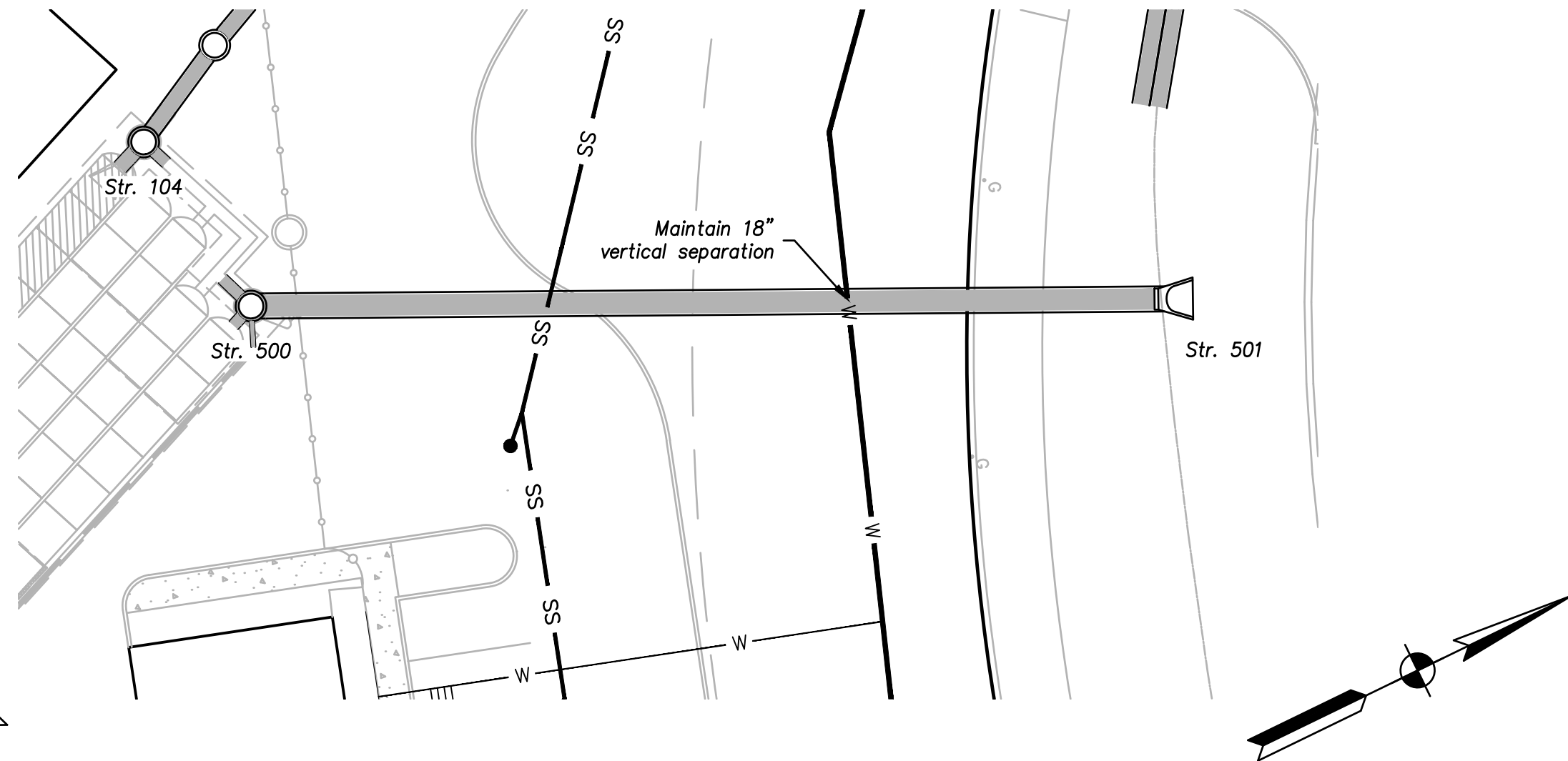
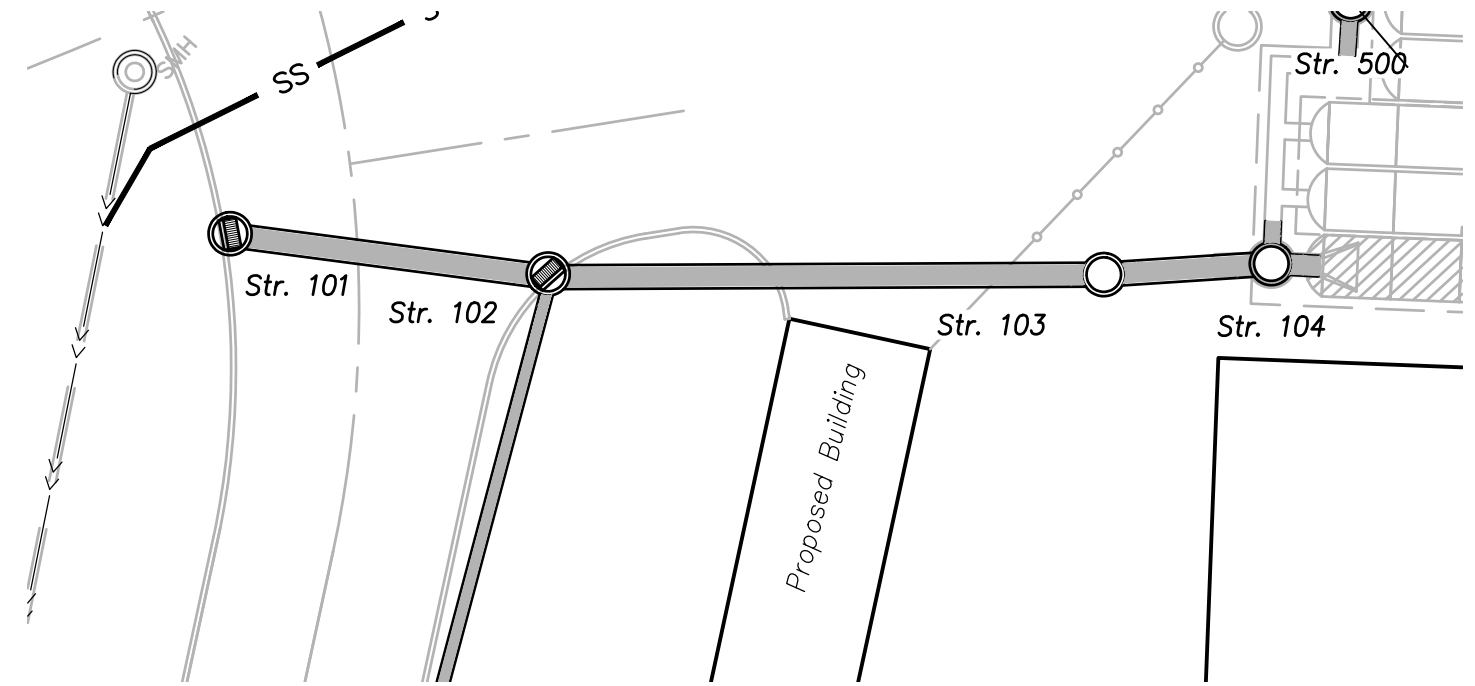
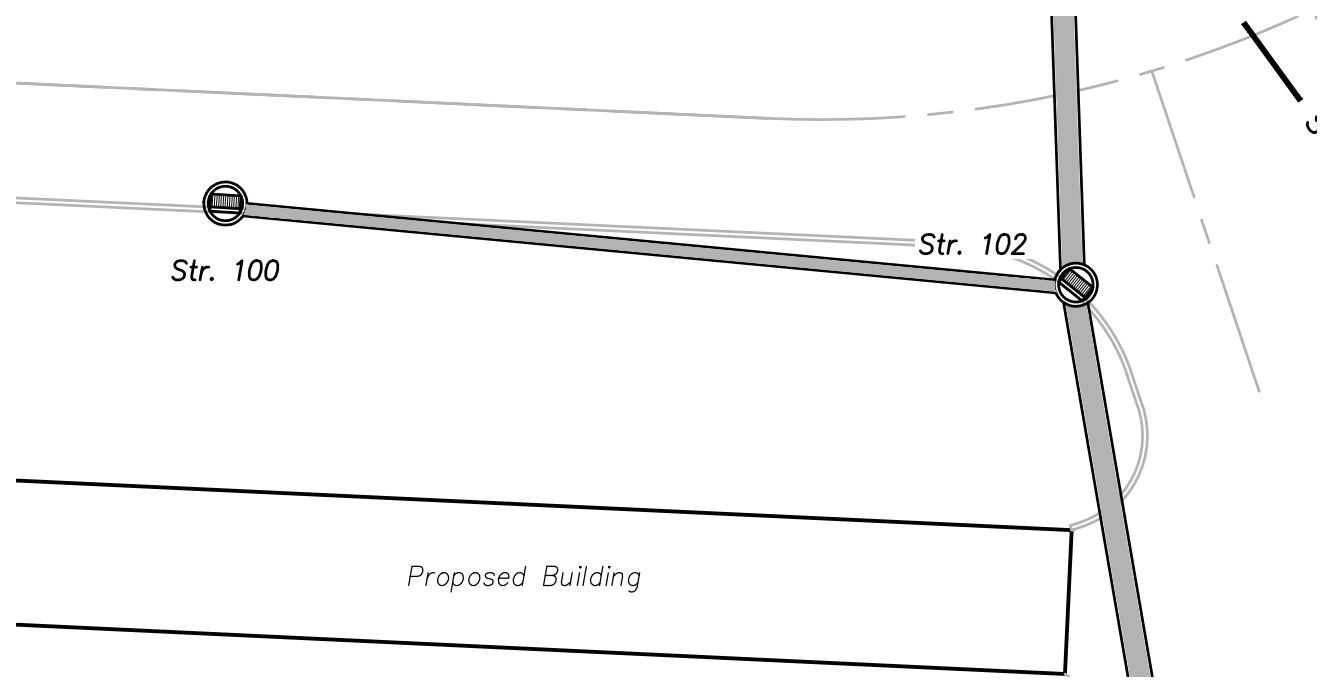


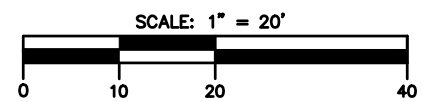
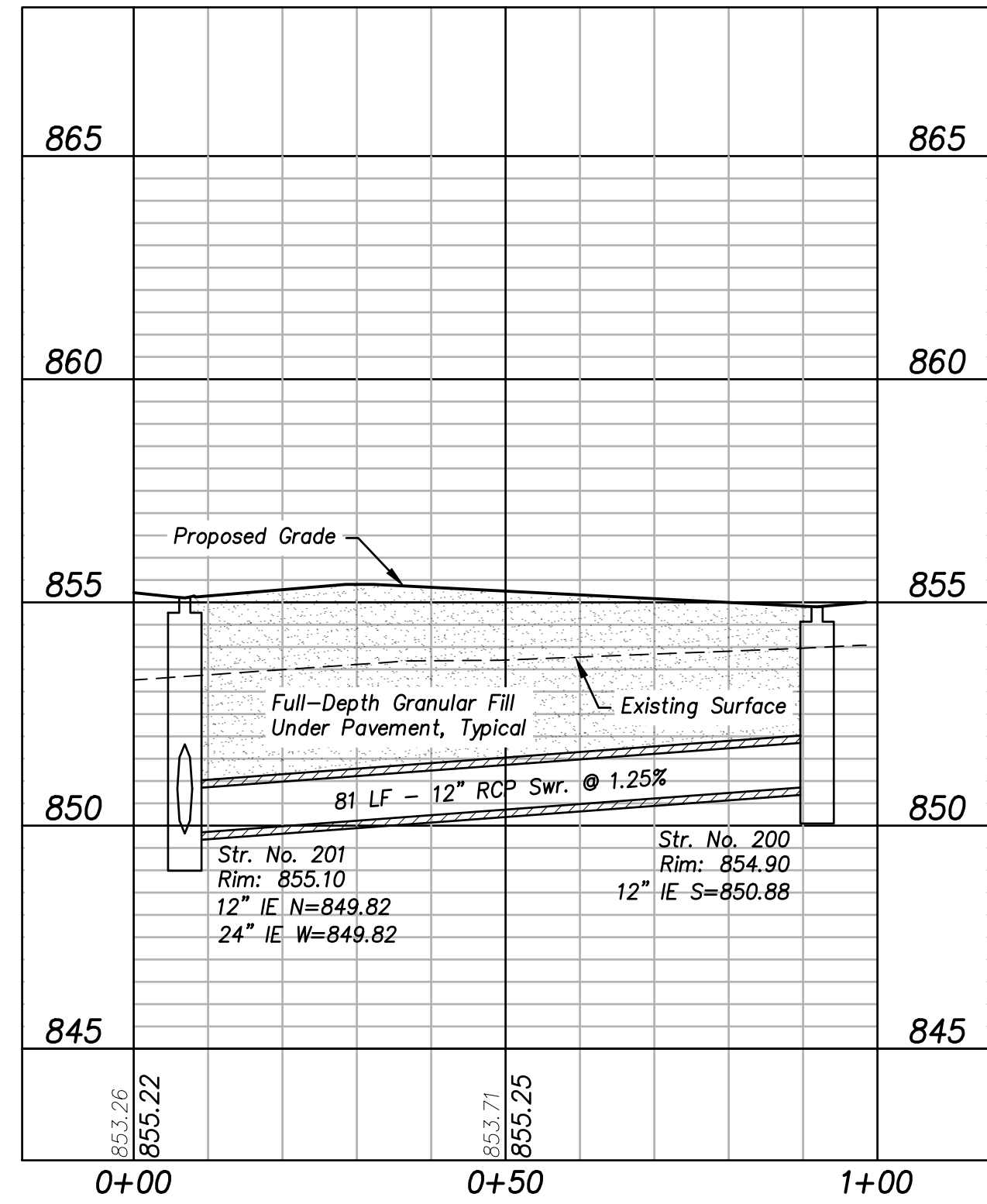
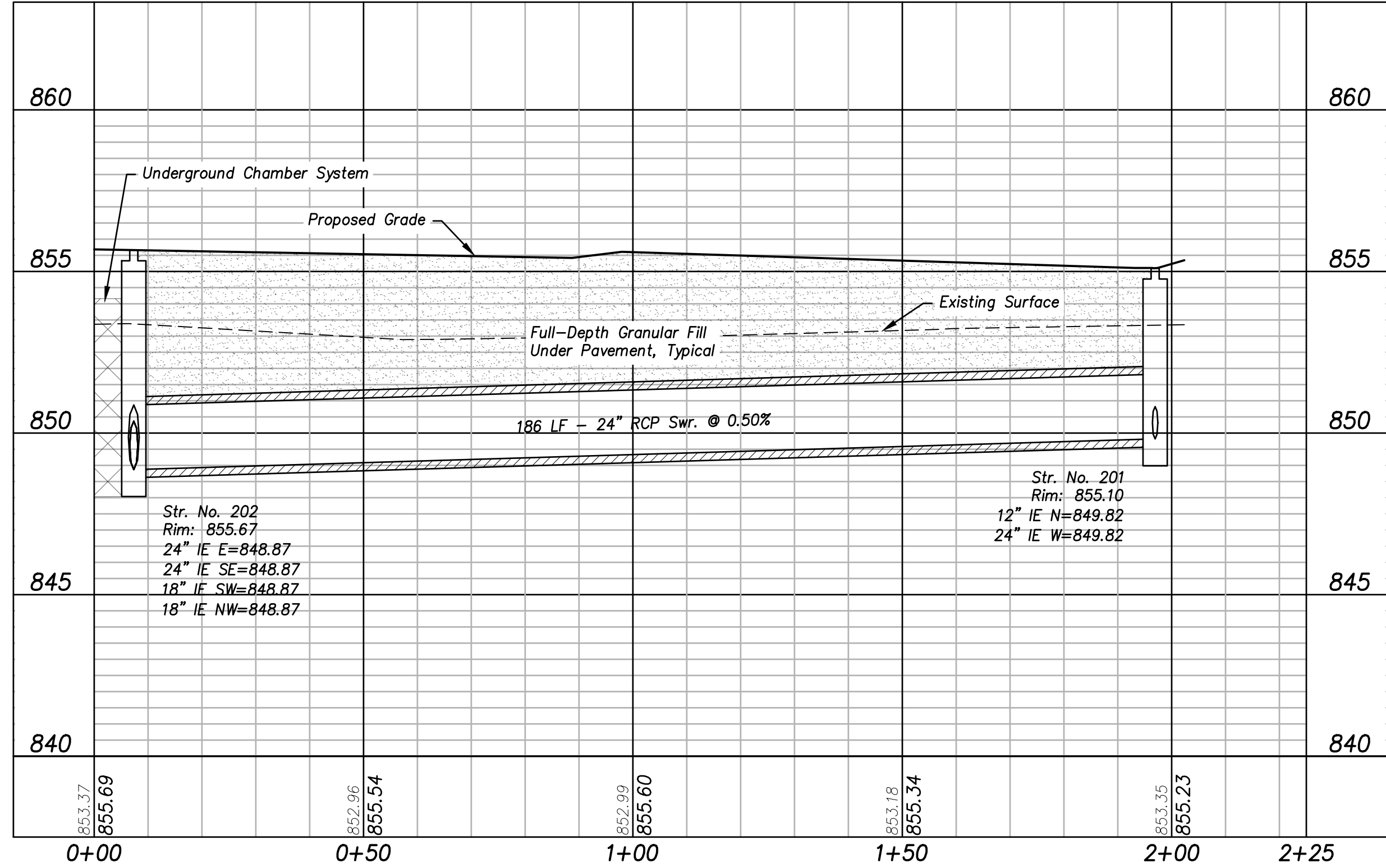
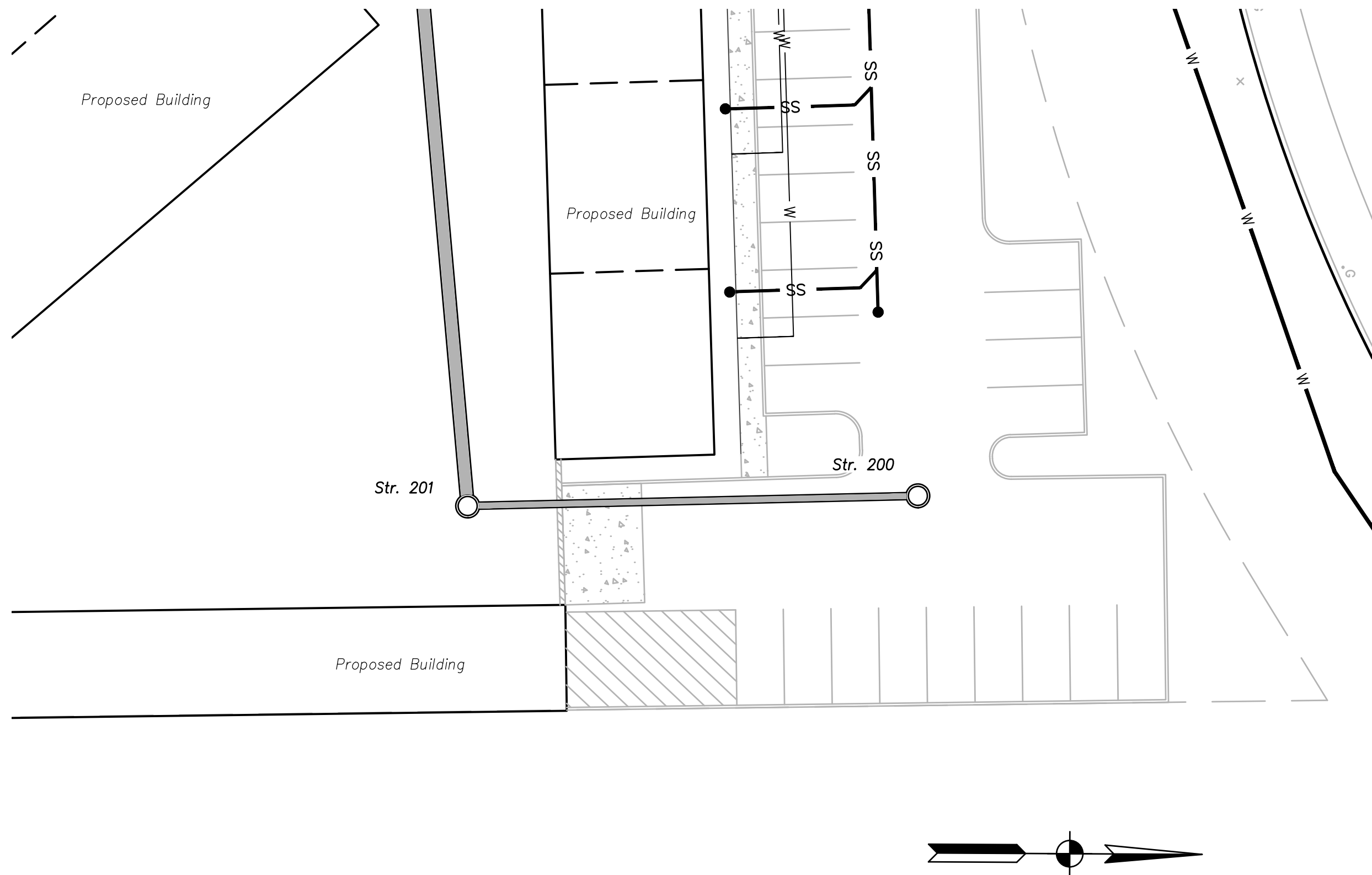
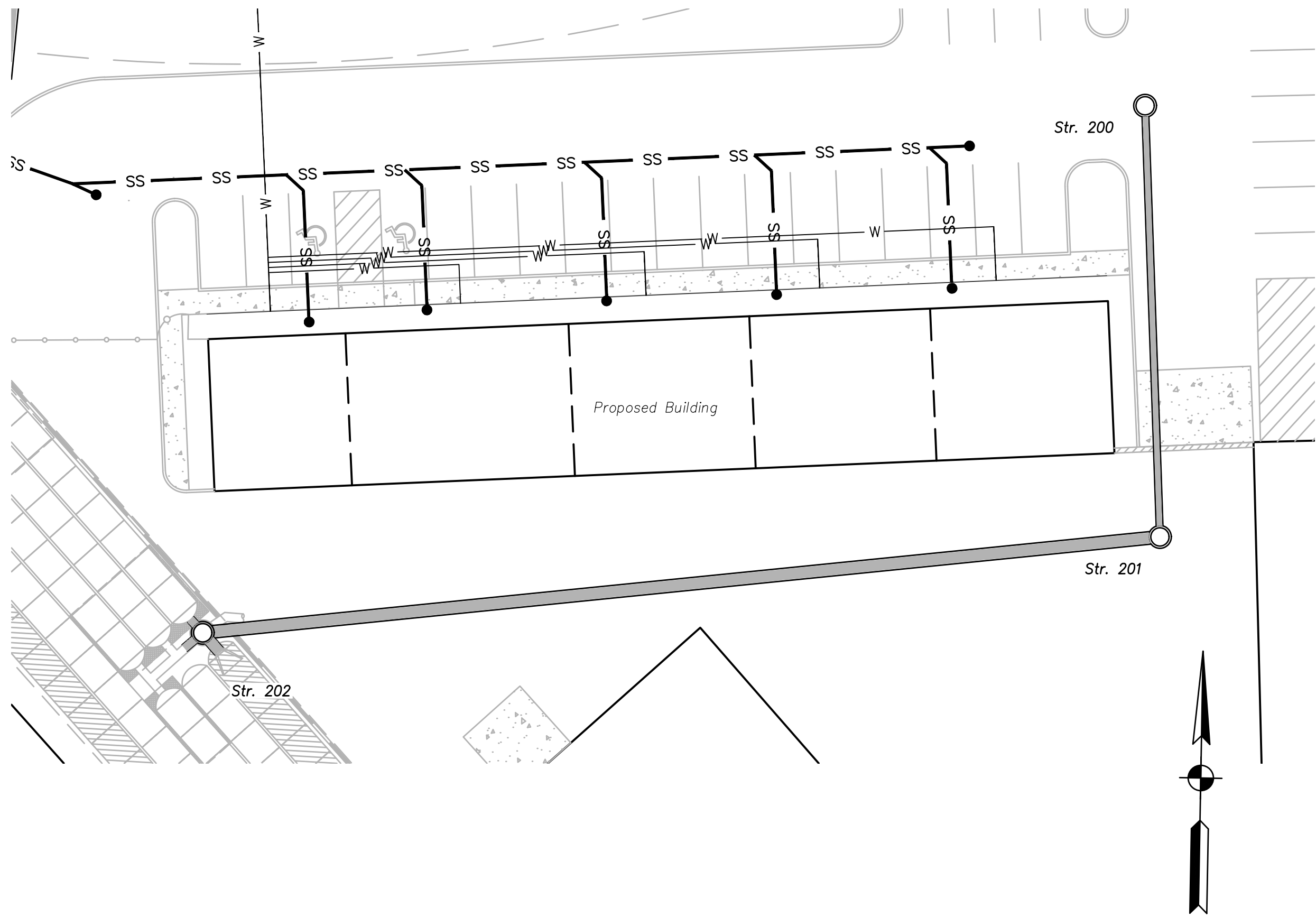


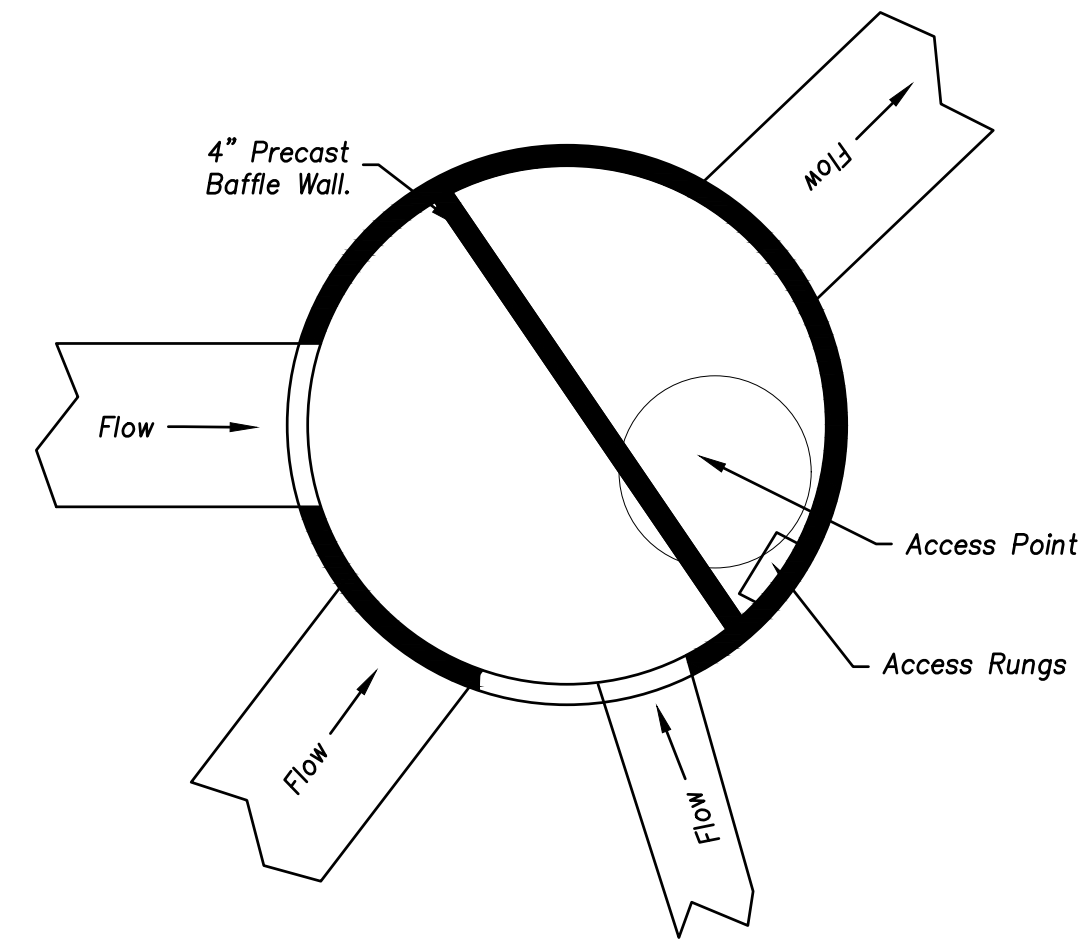
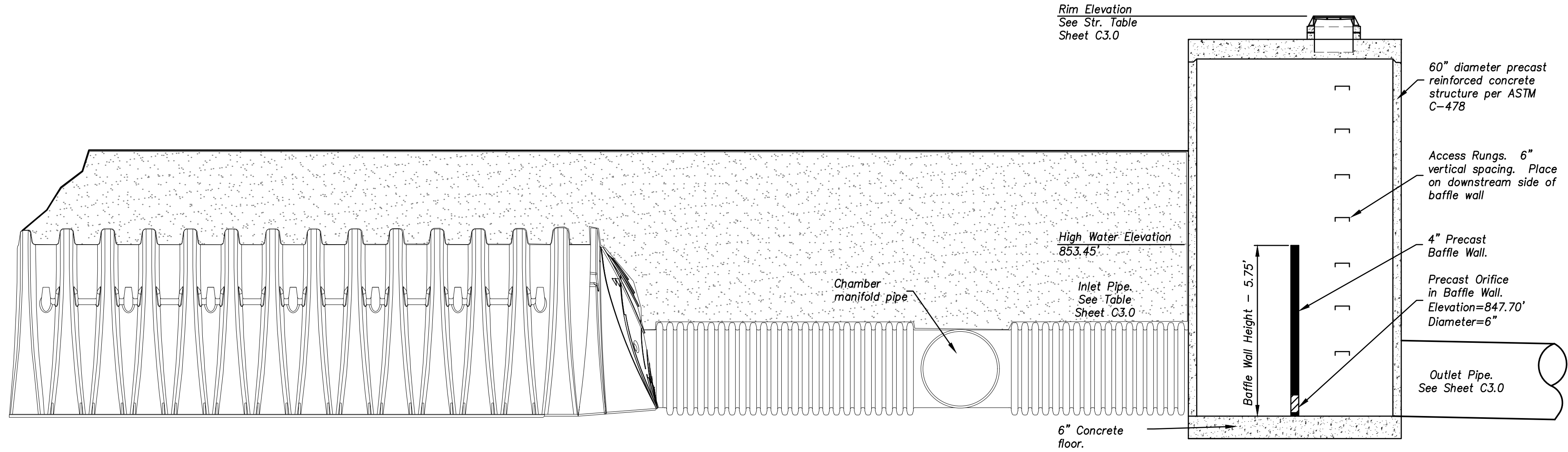
Linetype Legend

	- Fence Line
	- Existing Sanitary Sewer
	- Existing Storm Sewer Line
	- Underground Gas Line
	- Water Line
	- Proposed Sanitary Sewer
	- Cable Line
	- Proposed Stormwater Line

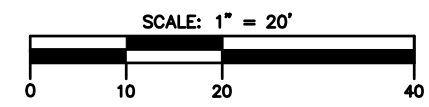


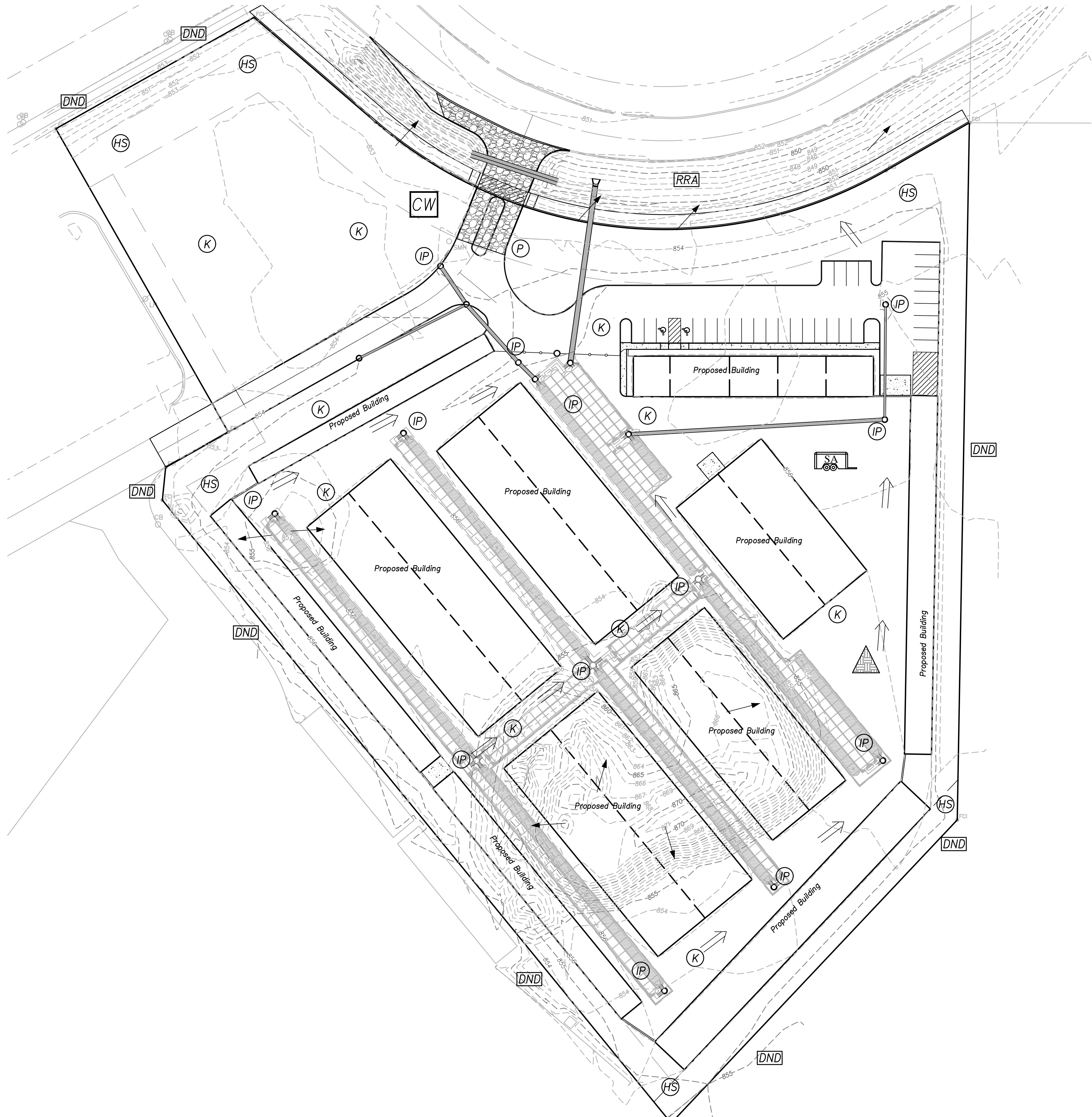






CHAMBER SYSTEM OUTLET STRUCTURE
DETAIL
(NOT TO SCALE)



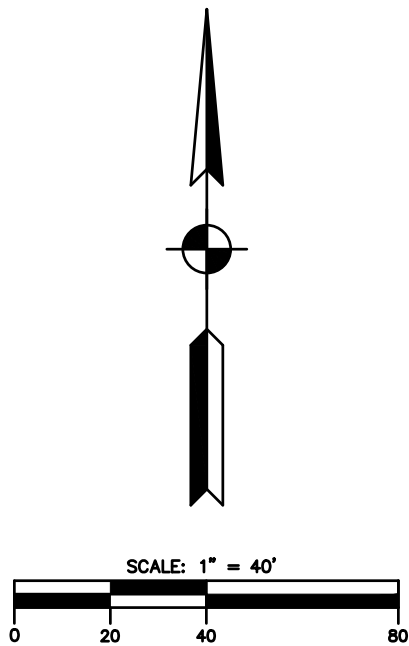


GENERAL NOTES

1. All erosion control measures shall be implemented in accordance with this plan and shall comply with the Town of McCordsville, Indiana, and General Construction Permit as outlined in the Indiana Storm Water Quality Manual which is available online at the following website: www.in.gov/idem/stormwater/2363.htm
2. The Owner must notify the Town of McCordsville MS4 Supervisor and the Hancock County Soil & Water Conservation District at least 48 hours prior to any land disturbing activity and upon completion of the project so that final site inspections may be performed for compliance. The Indiana Department of Environmental Management (IDEM) is notified of the commencement of construction via the Notice of Intent submittal packet.
3. If construction is not completed within five (5) years or if any early release from the permit is not received as specified under CSGP, the Owner shall renew the Notice of Intent. Once all construction is completed for the entire project, the Owner shall file a "Notice of Termination" with Town of McCordsville. The Town of McCordsville will make a site inspection for compliance. The Owner will submit the Notice of Termination to the Indiana Department of Environmental Management (IDEM) when the project is found to be in compliance with Rule 5 including permanent stabilization and the correct installation of all permanent stormwater quality measures.
4. A temporary construction entrance is required at the project. The entrance must be constructed as shown in the detail and must be a minimum of 150 feet in length.
5. Until the project is accepted by the Owner, the Contractor shall maintain all erosion control measures to prevent sediment from leaving the project site. Contractor shall implement and maintain any additional measures at the request of any Local and/or State Stormwater and Erosion Control inspectors at no additional cost. No offsite sediment flows or sediment laden stormwater flows are to occur at any time during construction. Install silt fencing on an as needed basis.
6. Soil material shall be temporarily stockpiled onsite as necessary in accordance with General Construction Permit guidelines. Note: All excess material not needed shall be hauled away and disposed of in accordance with General Construction Permit guidelines. Stockpiles are not to remain on the project at the end of construction.
7. All areas disturbed by construction shall be stabilized with seeding or an alternative surface stabilization measure. Temporary Seeding shall take place as soon as possible on any bare or thinly vegetated areas which have less than 70 percent cover. All disturbed areas that will remain inactive for a period of 15 days or more are to be stabilized. Temporary and Permanent Seeding shall be in accordance with the Indiana Storm Water Quality Manual. All disturbed areas at the project must be permanently stabilized at the end of construction.

LEGEND

- Temporary Construction Entrance – Minimum length 150' (Sheet C4.2)
- Do Not Disturb Area – No Exceptions
- Surface Stabilization Measure – Permanent Seeding with Secured Mulch (Minimum) or Hydroseeding (Sheet C4.1) with hydroseeding required in areas of the project – See hydroseeding information below. All disturbed areas must be permanently stabilized at the completion of construction.
- Hydroseeding – General installation detail provided on Sheet C4.1. Note: If hydroseeding fails to stabilize basin banks, erosion control blanket shall be installed in failure areas.
- Proposed location of Concrete Washout Pit (Sheet C4.2). Alternatives, return concrete waste material to concrete plant for disposal or use a concrete company with self-contained washout systems on their delivery vehicles (preferred method).
- Staging Area (Proposed) Erosion Control Blanket
- Topsoil Stockpile Location (Proposed) (See Detail on Sheet C4.1)
- Construction Limits
- Existing Sheet Flow Direction
- Proposed Sheet Flow Direction
- Concrete Asphalt Pavement
- Permit Posting
- Riprap Apron or Energy Dissipater (See detail on Sheet C4.1)
- Silt Fencing – Required (Sheet C4.1)
- Inlet Protection Measure (Sheet C4.1)



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Valparaiso

Engineering Architecture Land Surveying

GATEWAY CROSSING
McCORDSVILLE, INDIANA

STORMWATER POLLUTION
PREVENTION PLAN

SHEET TITLE:

DRAWN BY:
MDR

DESIGNED BY:
SRF

PM REVIEW:
SRF

QA/QC REVIEW:
RSP

DATE:
09/08/2023

SEAL:

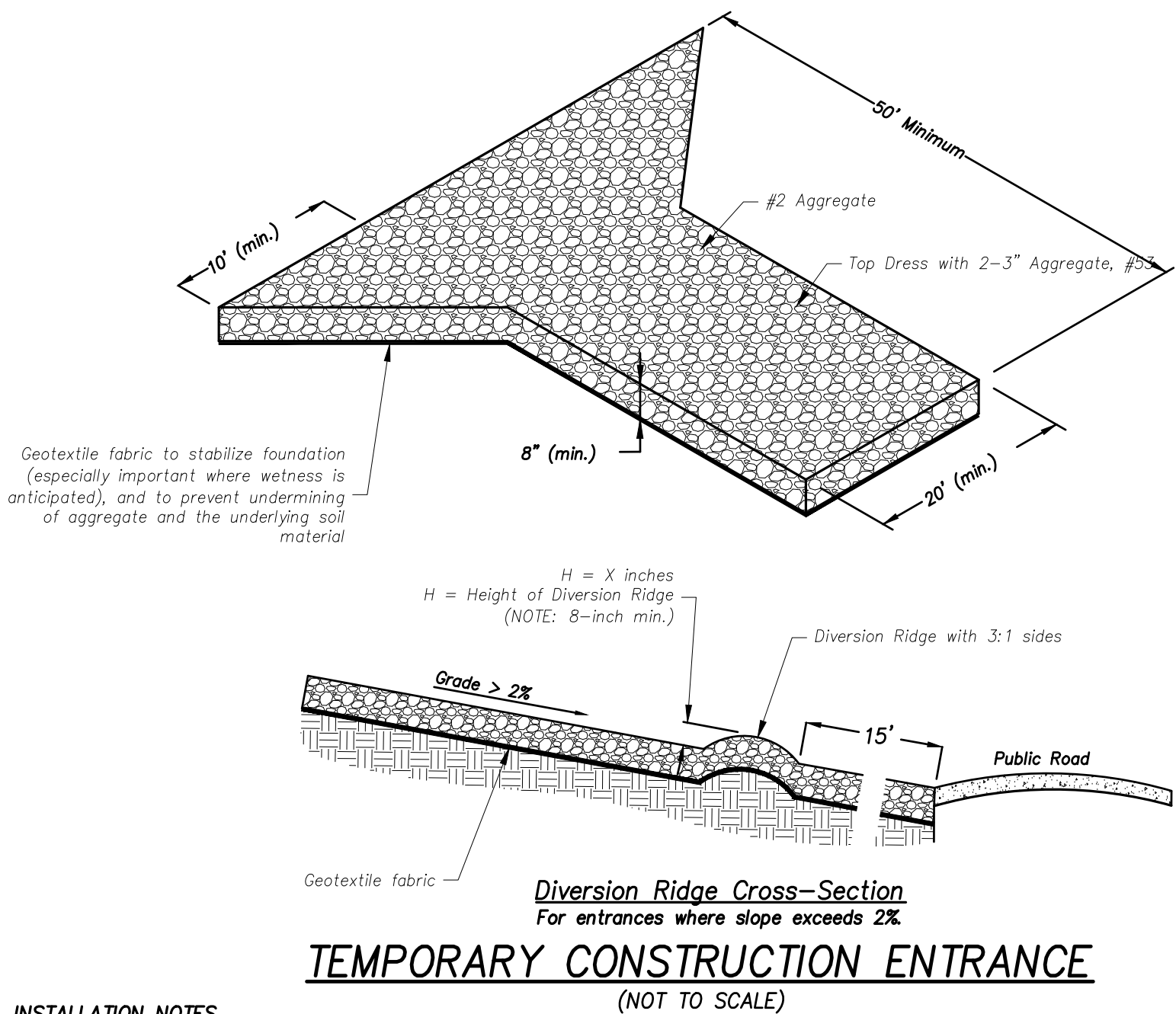
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DATE:

SCALE:
HORZ: 1" = 40'
VERT: N/A

ACI JOB #
22-0218

SHEET NO.
C4.0

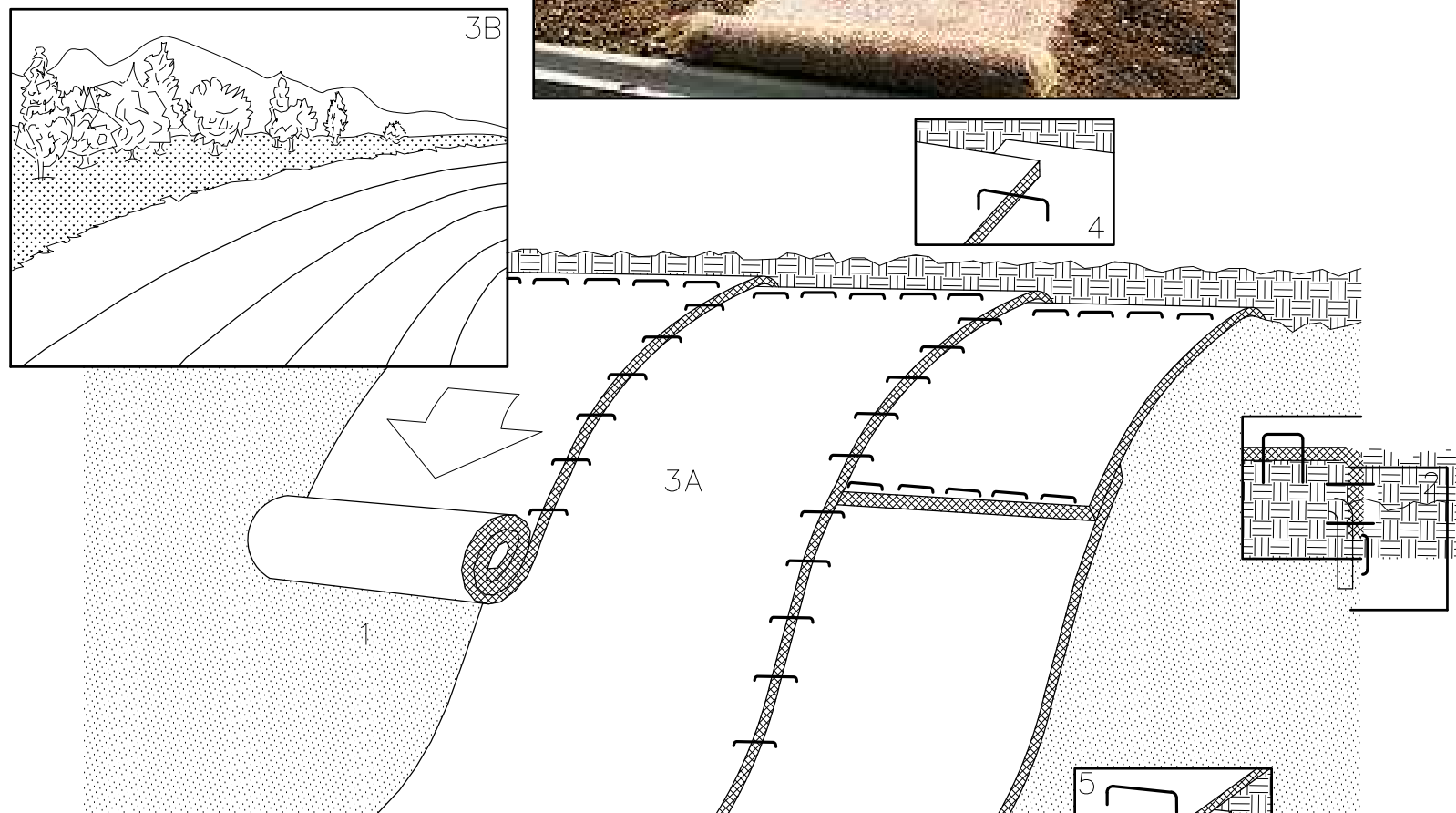


INSTALLATION NOTES

1. Remove all vegetation and other objectionable material from the foundation area.
2. Grade foundation and crown for positive drainage. If the slope of the construction entrance is toward a public road and exceeds two percent, construct an 8-inch high diversion ridge with a ratio of 3-to-1 side slopes across the foundation area about 15 feet from the entrance to divert runoff away from the road.
3. Install a culvert pipe under the pad if needed to maintain proper public road drainage.
4. If wet conditions are anticipated, place geotextile fabric on the graded foundation to improve stability.
5. Place specified aggregate to the dimensions shown leaving the surface smooth and sloped for drainage.
6. Top-dress the first 50 feet adjacent to the public roadway with 2-3 inches of washed #53 aggregate [optional, used primarily where the purpose of the pad is keep soil from adhering to vehicle tires]
7. Where possible, divert all stormwater runoff and drainage from the pad to a sediment trap or basin.

MAINTENANCE

1. Inspect daily.
2. Reshape pad as needed for drainage and runoff control.
3. Top dress with clean aggregate as needed.
4. Immediately remove mud and sediment tracked or washed onto public roads.
5. Flushing should only be used if the water can be conveyed into a sediment trap or basin



SLOPE STABILIZATION EROSION CONTROL BLANKETS (NOT TO SCALE)

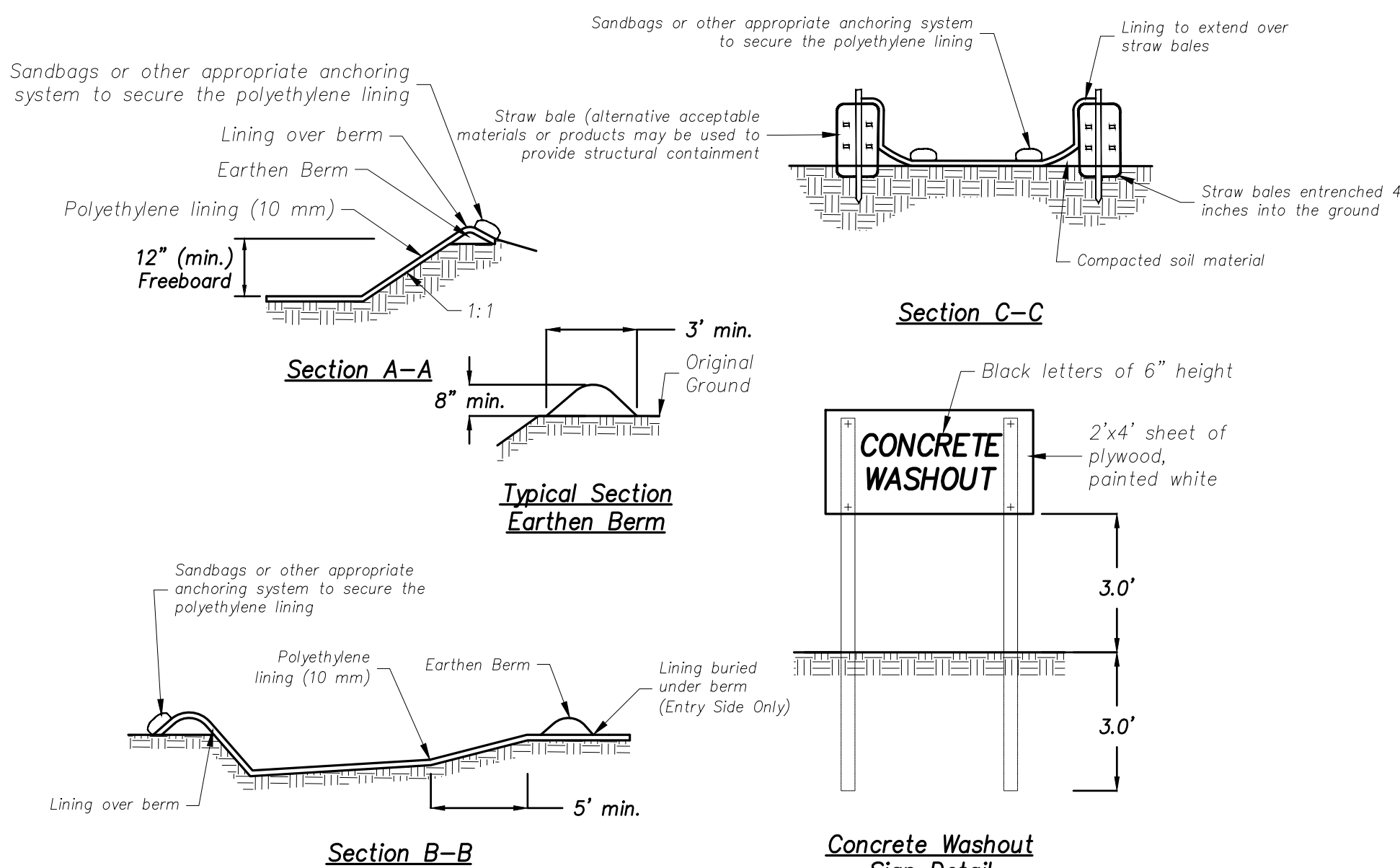
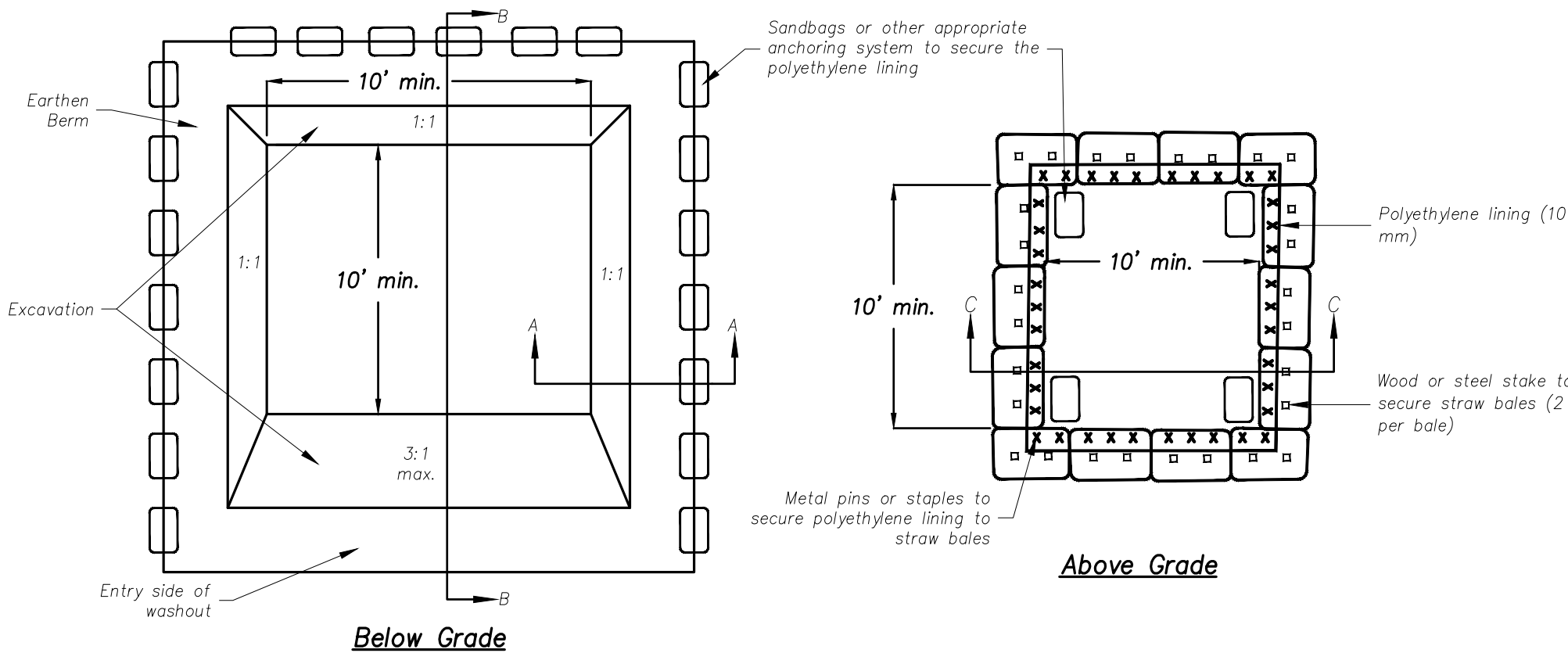
DETAIL PROVIDED BY:
NORTH AMERICAN GREEN

INSTALLATION NOTES

1. Prepare soil before installing blankets, including application of lime, fertilizer, and seed. When using cell-a-seed do not seed prepared area. Cell-a-seed must be installed with paper side down.
2. Begin at the top of the slope by anchoring the blanket in 6" deep x 6" wide trench. Backfill and compact the trench after stapling. Follow the manufacturer's recommendations for size and type of staples and staple pattern for securing the blankets.
3. A) Roll the blankets down the bank as shown.
B) Blankets may be installed horizontally down the slope of the drainage swale.
4. The edges of parallel blankets must be stapled with approximately 2" overlap.
5. When blankets must be spliced down the slope, place blanket end over end (shingle style) with approximately 4" overlap. Staple through overlapped area, approximately 12" apart.

MAINTENANCE

1. Inspect within 24 hours of a half-inch or greater rain event and at least once every week.
2. Check for erosion or displacement of the blanket.
3. If any area shows erosion, pull back that portion of the blanket covering the eroded area, add soil and tamp, reseed area, replace and staple the blanket.



CONCRETE WASHOUT STRUCTURE (NOT TO SCALE)

INSTALLATION NOTES

1. Dependent upon the type of system, either excavate the pit or install the containment system. For prefabricated containers, locate, and install according to the manufacturer's recommendations.
2. A base shall be constructed and prepared that is free of rocks and other debris that may cause tears/punctures in the polyethylene lining.
3. Install the polyethylene lining. For excavated systems, the lining should extend over the entire excavation. The lining for bermed systems should be installed over the pooling area with enough material to extend the lining over the berm or containment system. The lining should be secured with pins, staples, or other fasteners.
4. Place flags, safety fencing, or equivalent to provide a barrier to construction equipment and other traffic.
5. Place a non-collapsing, non-water holding cover over the washout facility prior to a predicted rainfall event to prevent accumulation of water and possible overflow of the system (optional).
6. Install signage that identifies concrete washout areas and post signs directing contractors and suppliers to designated locations.
7. Where necessary, provide stable ingress and egress or alternative approach pad for concrete washout systems.

MAINTENANCE

1. Inspect daily and after each storm event - Inspect the integrity of the overall structure and containment system where applicable.
2. Inspect the system for leaks, spills, and tracking of soil by equipment, and the polyethylene lining for failure, including tears and punctures.
3. Once concrete wastes harden, remove and dispose of the material.
4. Excess concrete should be removed when the washout system reaches 50 percent of the design capacity. Use of the system should be discontinued until appropriate measures can be initiated to clean the structure. Prefabricated systems should also utilize this this criterion, unless the manufacturer has alternate specifications.
5. Upon removal of the solids, inspect the structure. Repair the structure as needed or construct a new system.
6. Dispose of all the concrete in a legal manner. Reuse the material on site, recycle, or haul the material to an approved construction/demolition landfill site. Recycling of material is encouraged. The waste material can be used for multiple applications including but not limited to roadbeds and buildings. The availability for recycling should be checked locally.
7. The plastic liner should be replaced after every cleaning; the removal of material will usually damage the lining.
8. The concrete washout system should be repaired or enlarged as necessary to maintain capacity for concrete waste.
9. Concrete washout systems are designed to promote evaporation. However, if the liquids do not evaporate and the system is near capacity it may be necessary to vacuum or remove the liquids and dispose of them in an acceptable method. Disposal may be allowed at the local sanitary sewer authority provided their national pollutant discharge elimination system permits allow for acceptance of this material. Another option would be to utilize a secondary containment system or basin for further dewatering.
10. Prefabricated units are often pumped and the company supplying the unit provides this service.
11. Inspect construction activities on a regular basis to ensure suppliers, contractors, and others are utilizing designated washout areas. If concrete waste is being disposed of improperly, identify violators and take appropriate action.
12. When concrete washout systems are no longer required, the concrete washout system shall be closed. Dispose of all hardened concrete and other materials used to construct the system.
13. Holes, depressions and other land disturbances associated with the system should be backfilled, graded, and stabilized.

CONSTRUCTION / STORMWATER POLLUTION PREVENTION PLAN

ASSESSMENT OF CONSTRUCTION PLAN ELEMENTS (SECTION A)	ASSESSMENT OF STORMWATER POLLUTION PREVENTION CONSTRUCTION COMPONENT (SECTION B)	ASSESSMENT OF STORMWATER POLLUTION PREVENTION CONSTRUCTION COMPONENT (SECTION B)
<p>A1 INDEX OF THE LOCATION OF REQUIRED PLAN ELEMENTS IN THE CONSTRUCTION PLANS.</p> <p>See Sheet C4.0.</p> <p>A2 A VICINITY MAP DEPICTING THE PROJECT SITE LOCATION IN RELATIONSHIP TO RECOGNIZABLE LOCAL LANDMARKS, TOWNS, AND MAJOR ROADS.</p> <p>See Sheet C0.0.</p> <p>A3 NARRATIVE OF THE NATURE AND PURPOSE OF THE PROJECT</p> <p>Storage Units with some commercial retail, and associated asphalt parking lot is to be constructed at the current site.</p> <p>A4 LATITUDE AND LONGITUDE TO THE NEAREST FIFTEEN (15) SECONDS</p> <p>Latitude: 39°53'24"N Longitude: 85°55'42"W</p> <p>A5 LEGAL DESCRIPTION OF THE PROJECT SITE</p> <p>See this sheet.</p> <p>A6 11 X 17--INCH PLAT SHOWING BUILDING LOT NUMBERS/BOUNDARIES AND ROAD LOUT/NAMEs.</p> <p>Included with the submission.</p> <p>A7 BOUNDARIES OF THE ONE HUNDRED (100) YEAR FLOODPLAINS, FLOODWAY FRINGES, AND FLOODWAYS</p> <p>According to the FEMA Flood Insurance Rate Map (FIRM) Number 18059C0018D effective 12/04/2007, the site is located in zone "X"</p> <p>A8 LAND USE OF ALL ADJACENT PROPERTIES</p> <p>South – Commercial North – Residential West – Commercial East – Residential</p> <p>A9 IDENTIFICATION OF A U.S. EPA APPROVED OR ESTABLISHED TMDL</p> <p>None identified.</p> <p>A10 NAMES OF THE RECEIVING WATER(S)</p> <p>The existing site ultimately discharges into Geist Reservoir and the White River.</p> <p>A11 IDENTIFICATION OF DISCHARGES TO A WATER ON THE CURRENT 303(g) LIST OF IMPAIRED WATERS AND THE POLLUTANT(S) FOR WHICH IT IS IMPAIRED</p> <p>None.</p> <p>A12 SOILS MAP OF THE PREDOMINATE SOIL TYPES</p> <p>The site contains YbVA, YcAU and YmaB2 soil types. See Sheet C4.4 for soil map.</p> <p>A13 IDENTIFICATION AND LOCATION OF ALL KNOWN WETLANDS, LAKES, AND WATER COURSES ON OR ADJACENT TO THE PROJECT SITE (CONSTRUCTION PLAN, EXISTING SITE LAYOUT)</p> <p>There are no wetlands, lakes, or water courses on site. There is a Freshwater Pond classified as PUB6x to the Southwest.</p> <p>A14 IDENTIFICATION OF ANY OTHER STATE OR FEDERAL WATER QUALITY PERMITS OR AUTHORIZATIONS THAT ARE REQUIRED FOR CONSTRUCTION ACTIVITIES</p> <p>None.</p> <p>A15 IDENTIFICATION AND DELINEATION OF EXISTING COVER, INCLUDING NATURAL BUFFERS</p> <p>Existing cover is grass/brush. See Sheet V1.0.</p> <p>A16 EXISTING SITE TOPOGRAPHY AT AN INTERVAL APPROPRIATE TO INDICATE DRAINAGE PATTERNS</p> <p>See Sheet C2.0.</p> <p>A17 LOCATION(S) WHERE RUN-OFF ENTERS THE PROJECT SITE</p> <p>Runoff is generated entirely by the site and no offsite runoff is expected.</p> <p>A18 LOCATION(S) WHERE RUN-OFF DISCHARGES FROM THE PROJECT SITE PRIOR TO LAND DISTURBANCE</p> <p>Run-off discharges to the north to existing stormwater system and to the West to adjacent lot. See Sheet V1.0.</p> <p>A19 LOCATION OF ALL EXISTING STRUCTURES ON THE PROJECT SITE</p> <p>No buildings on site. See Sheet V1.0.</p> <p>A20 EXISTING PERMANENT RETENTION OR DETENTION FACILITIES, INCLUDING MANMADE WETLANDS, DESIGNED FOR THE PURPOSE OF STORMWATER MANAGEMENT</p> <p>No existing facilities for storm water management.</p> <p>A21 LOCATIONS WHERE STORMWATER MAY BE DIRECTLY DISCHARGED INTO GROUND WATER, SUCH AS ABANDONED WELLS, SHAKES, OR KARST FEATURES</p> <p>None known or observed.</p> <p>A22 SIZE OF THE PROJECT AREA EXPRESSED IN ACRES</p> <p>Total Area = 1.0 Acre.</p> <p>A23 TOTAL EXPECTED LAND DISTURBANCE EXPRESSED IN ACRES</p> <p>Disturbed Area = 1.0 Acre.</p> <p>A24 PROPOSED FINAL TOPOGRAPHY</p> <p>As shown on Sheet C2.0.</p> <p>A25 LOCATIONS AND APPROXIMATE BOUNDARIES OF ALL DISTURBED AREAS</p> <p>As shown on Sheet C4.0.</p> <p>A26 LOCATIONS, SIZE, AND DIMENSIONS OF ALL STORMWATER DRAINAGE SYSTEMS, SUCH AS CULVERTS, STORMWATER SEWER, AND CONVEYANCE CHANNELS</p> <p>System outline on as shown on Sheet C3.0.</p> <p>A27 LOCATIONS OF SPECIFIC POINTS WHERE STORMWATER AND NON-STORMWATER DISCHARGES WILL LEAVE THE PROJECT SITE</p> <p>See Sheets C4.0.</p> <p>A28 LOCATION OF ALL PROPOSED SITE IMPROVEMENTS, INCLUDING ROADS, UTILITIES, LOT DELINEATION AND IDENTIFICATION, PROPOSED STRUCTURES, AND COMMON AREAS</p> <p>The entirety of the site improvements include, asphalt parking, sidewalk, sanitary sewer, water connection, storm sewer system, and commercial building. These are shown throughout the plans.</p> <p>A29 LOCATION OF ALL ON-SITE AND OFF-SITE SOIL STOCKPILES AND BORROW AREAS</p> <p>Sheet C4.0 shows the recommended location for stockpiles. Stockpiles can be relocated and/or moved by the contractor to take into consideration stoting, phases, and areas where cuts and fills are to be taken place. Regardless of location, erosion control measures shall be installed as shown on this plan.</p> <p>A30 CONSTRUCTION SUPPORT ACTIVITIES THAT ARE EXPECTED TO BE PART OF THE PROJECT</p> <p>Staging and material storage which are shown on Page C4.0</p> <p>A31 LOCATION OF ANY IN-STREAM ACTIVITIES THAT ARE PLANNED FOR THE PROJECT INCLUDING BUT NOT LIMITED TO, STREAM CROSSING AND PUMP AROUNDs</p> <p>None</p>	<p>B1 DESCRIPTION OF POTENTIAL POLLUTANT GENERATING SOURCES AND POLLUTANTS, INCLUDING ALL POTENTIAL NON-STORMWATER DISCHARGES</p> <p>The primary pollutant associated with construction activities is sediment. Additional pollutants may be generated by construction vehicle operation and maintenance (e.g. fueling, changing hydraulic fluids and oils); concrete washout; improper storage of construction materials; improper disposal of construction trash and debris; improper application or over application of fertilizers and pesticides; sanitary chemicals and waste from portable toilets, and improper storage, application, and disposal of soluble materials or other materials that may be mobilized by stormwater runoff. Equipment and fuel shall be stored in a centralized location and the Contractor shall institute methods and procedures to prevent the discharge of pollutants to stormwater runoff at the project. Fuel tanks and tanks containing other products / materials / liquids are to be secondarily contained. Concrete washout is to be disposed of in a constructed concrete washout (detail on Sheet C4.0) or by using delivery vehicles with self-contained washout systems.</p> <p>B2 STAB. CONSTRUCTION ENTRANCE LOCATION AND SPECIFICATIONS</p> <p>See Sheet C4.0</p> <p>B3 SPECIFICATIONS FOR TEMPORARY AND PERMANENT STABILIZATION</p> <p>See Sheet C4.0 through for specifications of temporary and permanent stabilization.</p> <p>B4 SEDIMENT CONTROL MEASURES FOR CONCENTRATED FLOW AREAS</p> <p>See Sheet C4.0.</p> <p>B5 SEDIMENT CONTROL MEASURES FOR SHEET FLOW AREAS</p> <p>See Sheet C4.0.</p> <p>B6 RUN-OFF CONTROL MEASURES</p> <p>See Sheet C4.0</p> <p>B7 STORMWATER OUTLET PROTECTION LOCATION AND SPECIFICATIONS</p> <p>See sheet C4.0.</p> <p>B8 GRADE STABILIZATION STRUCTURE LOCATION AND SPECIFICATIONS</p> <p>Not Applicable.</p> <p>B9 DEWATERING APPLICATIONS AND MANAGEMENT METHODS</p> <p>Not Applicable.</p> <p>B10 MEASURES UTILIZED FOR WORK WITHIN WATERBODIES</p> <p>Not applicable.</p> <p>B11 TEMPORARY SURFACE STABILIZATION METHODS APPROPRIATE FOR EACH SEASON</p> <p>Building construction</p> <p>Delineate work areas around buildings under construction and protect other areas of the site. Provide stone vehicular access points. Follow erosion control guidelines for construction on individual lots. Permanently seed, mulch, and install landscaping following final grading in vicinity of completed buildings. Temporary Gravel Entrance/Exit. Place six--inches minimum depth of 2-3 inch washed stone (INDOT CA NO.2) with geotextile fabric underlayment. Area to be covered is as shown on the erosion control plan. Culverts shall be placed under the pad as necessary to maintain roadside drainage.</p> <p>Maintenance requirements: contractor shall inspect the entrance weekly and after storm events. Entrance shall be reshaped as necessary for drainage and runoff control. Top--dress entrance with clean stone as needed. Sediment tracked onto roads shall be removed immediately by brushing or sweeping. Any damage to the pavement shall be immediately repaired.</p> <p>Topsoil (Salvage and Utilization). Contractor shall stockpile suitable topsoil material to be used for final lot grading. Stockpiles shall be protected against erosion by placing silt fence or straw bale barriers on downstream side of pile. Stockpiles used for more than six months shall be temporarily seeded, covered with a tarp, or surrounded by a sediment barrier (silt fence or straw bales). Before reapplying topsoil, subsoil shall be graded and roughened by disking to a depth of 3-4 inches.</p> <p>Maintenance requirements: contractor shall inspect newly topsoiled areas on a weekly basis until vegetation is established. Eroded areas shall be repaired and revegetated immediately.</p> <p>Temporary Seeding. Refer to seeding schedule and notes detail</p> <p>Installation and maintenance requirements:</p> <p>A) Contractor shall roughen all disturbed surfaces by bulldozer cleats, disk, tiller, or other methods prior to seeding where vegetation will be established. Seed mixtures shall be planted only during the optimum dates contained in the above table. Mulch (practice 3.15) or other approved means shall be used outside of these dates until the following year when seeding will be required.</p> <p>B) All disturbed areas indicated with temporary seeding on the erosion control plan shall be seeded immediately after construction.</p> <p>C) Apply 14 lbs. 12-12-12 fertilizer, or equivalent, per 1000 square feet or as recommended by soil test. Work fertilizer into soil 2 to 4 inches deep by disking or raking.</p> <p>D) Seed lot areas that have been graded following street and drainage construction using an appropriate mixture for the time of year based on the above chart. Seed shall be applied uniformly with a drill or culti--packer seeder or by broadcasting, and cover to the depth shown in the above chart. If drilling or broadcasting, seeded shall be firmed with a roller or culti--packer.</p> <p>E) Organic mulching shall be required for temporarily seeded areas and shall be anchored by crimping or tackifying.</p> <p>F) Perennial species may be used for temporary cover and is required for areas that will remain idle for more than one year.</p> <p>G) Fall seeded wheat or rye shall be top--dressed with nitrogen in February or march if nitrogen deficiency is apparent.</p> <p>H) If heavy rains occur during grass establishment causing erosion and loss of seed, fertilizer, etc., the affected area shall be repaired and reseeded immediately.</p> <p>I) Permanent Seeding. Refer to seeding schedule and notes detail</p> <p>Installation and maintenance requirements:</p> <p>A) Contractor shall roughen all disturbed surfaces by bulldozer cleats, disk, tiller, or other methods prior to seeding where vegetation will be established.</p> <p>B) Topsoil shall be added to a depth needed for establishment of vegetation as described in practice 3.02 before permanent seeding.</p> <p>C) Lime shall be applied to the soil when the pH level is unsuitable for seeding at a rate of 30 lbs. per 1000 square feet or as recommended by soil test.</p> <p>D) Apply 14 lbs. per 1000 square feet of 12-12-12 fertilizer, or equivalent, or as recommended by soil test. Work fertilizer into soil 2 to 4 inches deep by disking or raking.</p> <p>E) Permanent seeding will be permitted only from March 15 through October 31. Mulch (practice 3.15) or other approved means shall be used outside of these dates until the following year when permanent seeding will be required. Permanent seeding done between June 1 and August 31 shall be watered according to the following schedule: once every twenty--four (24) hours for the first week, once every forty--eight (48) hours for the second week, once every seventy--two (72) hours for the third week, and once a week thereafter until completion of the project. The amount of watering shall be sufficient to saturate the upper few inches of the soil. During periods of ample rainfall, watering may be modified to simulate the above schedule.</p> <p>F) Seed shall be applied uniformly with a drill or cultipacker--seeder or by broadcasting, and cover to a depth of 1/4 to 1/2 inch. If drilling or broadcasting, seeded shall be firmed with a roller or cultipacker.</p> <p>G) All permanently seeded areas shall be mulched and anchored by crimping or tackifying. If seeding is done with a hydroseeder, fertilizer and mulch can be applied with the seed in a slurry mixture.</p> <p>H) An oat or wheat companion or nurse crop may be used with any of the permanent seeding mixtures at the following rates: spring oats--1/4 to 3/4 bu./acre; wheat--no more than 1/2 bu./acre.</p> <p>I) Additional seed species and mixtures that are commercially available may be used. Rates and mixtures shall be equivalent to those contained in the above chart.</p> <p>J) If heavy rains occur during grass establishment causing erosion and loss of seed, fertilizer, etc., the affected area shall be reseeded immediately.</p> <p>K) Sparse, bare, or damaged areas shall be re--fertilized, seeded, and mulched.</p> <p>Mulching. Refer to mulching requirement detail</p> <p>Installation and maintenance requirements:</p> <p>A) Mulch shall cover at least 75% of the soil surface and shall be anchored by one of the methods listed in the previous table. Hay, asphalt emulsion, synthetic tackifiers, synthetic binders, synthetic soil stabilizers, and biodegradable netting are not permitted.</p> <p>B) Mulch shall be inspected after storm events until vegetation is firmly established. If washout, breakage, or erosion occur, the surface shall be repaired, reseeded, mulched, and anchored.</p> <p>Riprap. Riprap shall be well--graded stone with 50% by weight larger than six inches in diameter. The largest pieces shall not exceed twelve inches in diameter and no more than 15% by weight shall be smaller than 3 inches in diameter. Geotextile fabric shall be placed under all riprap installations. Riprap shall be placed to a minimum thickness of eighteen (18) inches. All areas where riprap is to be placed shall be cut to a depth of eighteen (18) inches from finished grade and riprap shall be placed in said excavation. See erosion control details for placement of riprap on slopes, channels, and pipe outlets.</p> <p>Maintenance requirements: inspect after each storm event for displaced material, slumping, and erosion at the edges. Additional riprap shall be placed at displaced or erosive areas.</p> <p>Erosion Control Blanket. Organic or synthetic mulch incorporated into a polypropylene or similar netting material. Immediately upon grading and topsoil placement of swale or area to receive blanket and seed, place seed and erosion control blanket in accordance with manufacturer's recommendations including proper blanket anchoring as recommended by the manufacturer. If a delay occurs prior to placement of seed and/or blanket, place a straw bale dam, rock dam, or other measure at the downstream end of the swale or area receiving blanket and seed as indicated on the erosion control plan.</p> <p>Maintenance requirements: during the period of vegetative establishment, inspect after storm events for any erosion below the blanket. Pull back and anchor any areas showing erosion according to the manufacturer's recommendations.</p> <p>Fabric Drop Inlet Protection. To prevent runoff from bypassing the inlet, set the top of the fabric at least 6 in. Below the downslope ground elevation, or build a temporary dike (compacted to 6 in. Higher than the fabric) on the low side of the inlet. Cut the fabric from a single roll to eliminate joints. (provide at least 2 ft. Of overlap if a joint is needed.) Bury the bottom of the fabric at least 1 ft. Deep, backfill, and compact the backfill. Space the support posts evenly against the inlet perimeter a maximum of 3 ft. apart and drive them about 1y2 ft. into the ground. (overflow must fall directly into the inlet and not on unprotected soil.)</p> <p>Maintenance requirements: inspect the fabric barrier after storm events, and make needed repairs immediately. Remove sediment from the pool area to provide storage for the next storm. Avoid damaging or undercutting the fabric during sediment removal. When the contributing drainage area has been stabilized, remove and properly dispose of all construction material and sediment, grade the area to the elevation of the top of the inlet, then stabilize.</p> <p>B12 PLANNED CONSTRUCTION SEQUENCE THAT DESCRIBES THE IMPLEMENTATION OF STORMWATER QUALITY MEASURES IN RELATION TO LAND DISTURBANCE</p> <p>Construction Mobilization Locate and install construction entrance and staging areas. Delineate project limits and undisturbed areas Site Clearing and Demolition Install perimeter silt fence. Designate soil stockpile areas. Install temporary sediment basin out structures in existing detention basins. Begin Site Grading Install erosion control measures as grading progresses. Permanently seed and mulch bank areas when final grades are achieved. Temporary seed areas around proposed building. Utility Installation Maintain and relocate adjacent erosion control measures as required during installation. Temporarily seed and stabilize trench after backfilling. Finish Site Grading Permanently see and stabilize all graded areas that will remain undisturbed during building construction. Maintain and re--apply seeding measures until a good vegetative cover is established. Landscaping Stabilize all disturbed areas. Remove remaining temporary and perimeter sediment control measures when vegetation is well established throughout site.</p>	<p>B13 PROVISIONS FOR EROSION AND SEDIMENT CONTROL ON INDIVIDUAL RESIDENTIAL BUILDING LOTS REGULATED UNDER THE PROPOSED PROJECT</p> <p>Not applicable</p> <p>B14 MATERIAL HANDLING AND SPILL PREVENTION AND SPILL RESPONSE PLAN MEETING THE RQIUREMENTS IN 327 IAC 2--6-6.1</p> <p>The contractor shall provide a stone surface material staging area. All liquid material material shall be stored in a weather--proof, vandalism resistant enclosure or removed from the site during non--work hours. An onsite fueling area shall be designated away from drainage channels and inlets that would permit the rapid movement of spilled fuel to adjacent waterways. If more than 200 gallons of fuel is stored on--site, appropriate temporary containment facilities shall be installed to prevent migration of spills. All materials shall be handled, applied, and disposed of in strict accordance with manufacture's recommendations. Concrete washouts shall be provided unless concrete trucks are equipped with a self--containing washing system. Any accidents and spills must be immediately reported to the Hancock County Emergency Management.</p> <p>B15 MATERIAL HANDLING AND STORAGE PROCEDURES ASSOCIATED WITH CONSTRUCTION ACTIVITY</p> <p>If more than 200 gallons of fuel is stored on--site, appropriate temporary containment facilities shall be installed to prevent migration of spills. All materials shall be handled, applied, and disposed of in strict accordance with manufacture's recommendations. Concrete washouts shall be provided unless concrete trucks are equipped with a self--containing washing system. Any accidents and spills must be immediately reported to the Hancock County Emergency Management.</p> <p>ASSESSMENT OF STORMWATER POLLUTION PREVENTION POST CONSTRUCTION COMPONENT (SECTION C)</p> <p>C1 DESCRIPTION OF POTENTIAL POLLUTANTS AND THEIR SOURCES ASSOCIATED WITH THE PROPOSED LAND USE</p> <p>Potential pollutants generally associated with this type of construction project include construction debris, trash, fertilizers, herbicides, pesticides, oil and other vehicular fluids, fuels, leaks/spills which occur during refueling of construction equipment, leaking vehicles and equipment, and exposed soils (sediment). To minimize the chance of a fuel spill from occurring onsite, equipment operators shall closely monitor the refueling process to ensure hoses do not become disconnected and/or fuel tanks are not overfilled. Fuel tanks are to be secondarily contained or of double wall construction. The Contractor shall establish a central location for refueling of equipment and vehicles. This location shall be located as far away from any surface water (creeks, rivers, ponds, etc.), stormwater inlet structures, and roadside swales. The staging area should be established in a level area of the project.</p> <p>Empty containers (adhesives, sealers, vehicle fluid containers, etc.) shall be properly disposed of and shall not remain onsite.Trash and debris generate stormwater pollutants and are to be collected on a regular basis with daily recommended. All trash, debris, and empty containers are to be removed from the project and are to be disposed of properly. Burying and burning are not proper disposal methods.</p> <p>Vehicles and equipment shall be inspected daily to ensure that no fuel, oil, hydraulic fluids, and related vehicle fluids are leaking. Areas affected by leaks or spills are to be cleaned. Absorbents are to be used on hard surfaces. Used absorbents are to be disposed of according to local regulations. Remove contaminated soils in earthen areas and dispose of according to local regulations and restabilize areas.</p> <p>C2 DESCRIPTION OF PROPOSED POST-CONSTRUCTION STORMWATER MEASURES</p> <p>See Sheet C4.0. The stormwater quality measures at the project will be maintained by the owner.</p> <p>C3 PLAN DETAILS FOR EACH STORMWATER MEASURES</p> <p>See Sheets C4.0 through C4.4</p> <p>C4 SEQUENCE DESCRIBING STORMWATER MEASURE IMPLEMENTATION</p> <p>Construction Mobilization Locate and install construction entrance and staging areas. Delineate project limits and undisturbed areas Site Clearing and Demolition Install perimeter silt fence. Designate soil stockpile areas. Install temporary sediment basin out structures in existing detention basins. Begin Site Grading Install erosion control measures as grading progresses. Permanently seed and mulch bank areas when final grades are achieved. Utility Installation Maintain and relocate adjacent erosion control measures as required during installation. Temporarily seed and stabilize trench after backfilling. Finish Site Grading Permanently see and stabilize all graded areas that will remain undisturbed during building construction. Maintain and re--apply seeding measures until a good vegetative cover is established. Landscaping Stabilize all disturbed areas. Remove remaining temporary and perimeter sediment control measures when vegetation is well established throughout site.</p> <p>C5 DESCRIPTION OF MAINTENANCE GUIDELINES FOR PROPOSED POST-CONSTRUCTION STORMWATER QUALITY MEASURES</p> <p>The stormwater quality measures at the project will be maintained by the owner as described in the Operations and Maintenance Manual. However, the town may elect to address deficiencies and repairs and charge the responsible party. See Operations and Maintenance Manual.</p> <p>C6 ENTITY THAT WILL BE RESPONSIBLE FOR OPERATION AND MAINTENANCE OF THE POST-CONSTRUCTION STORMWATER MEASURE</p> <p>The owners.</p>

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McCORDSVILLE, INDIANA

STORMWATER POLLUTION
PREVENTION PLAN
SPECIFICATIONS

SHEET TITLE:

DRAWN BY:
MDR

DESIGNED BY:
SRF

PM REVIEW:
SRF

QA/QC REVIEW:
RSP

DATE:
09/08/2023

SEAL:

SIGNATURE:

DATE:

SCALE:
HORIZ: N/A
VERT: N/A

ACI JOB #
22-0218

SHEET NO.
C4.3

GENERAL SEEDING and SURFACE STABILIZATION PROCEDURES
IN ACCORDANCE WITH CHAPTER 7 OF THE INDIANA STORM WATER QUALITY MANUAL, OCTOBER 2007

TEMPORARY SEEDING

Table 1. Temporary Seeding Specifications

Seed Species 1	Rate per Acre	Planting Depth	Optimum Dates 2
Wheat or Rye	150 lbs.	1 to 1-1/2 inches	Sept. 15 – Oct. 30
Spring Oats	100 lbs.	1 inch	March 1 – April 15
Annual Ryegrass	40 lbs.	1-1/4 inch	March 1 – May 1 Aug. 1 – Sept. 1
German Millet	40 lbs.	1 to 2 inches	May 1 – June 1
Sudangrass	35 lbs.	1 to 2 inches	May 1 – July 30
Buckwheat	60 lbs.	1 to 2 inches	April 15 – June 1
Corn (broadcast)	300 lbs.	1 to 2 inches	May 11 – Aug. 10
Sorghum	35 lbs.	1 to 2 inches	May 1 – July 15

1. Perennial species may be used as a temporary cover, especially if the area to be seeded will remain idle for more than one year (See Permanent Seeding).
2. Seeding done outside the optimum seeding dates increases the chances of seeding failure. Dates may be extended or shortened based on the location of the project site within the state.

Mulch alone is an acceptable temporary cover and may be used in lieu of temporary seeding, provided that it is appropriately anchored. A high potential for fertilizer, seed, and mulch to wash exists on steep banks, cuts, and in channels and areas of concentrated flow.

1. Test soil to determine pH and nutrient levels.
2. Apply soil amendments as recommended by the soil test. If testing is not done, apply 400 to 600 pounds per acre of 12-12-12 analysis fertilizer, or equivalent.
3. Work the soil amendments into the upper two to four inches of the soil with a disk or rake operated across the slope.

1. Select a seed species or an appropriate seed mixture and application rate from Table 1.
2. Apply seed uniformly with a drill or cultipacker seeder or by broadcasting. Plant or cover seed to the depth shown in Table 1.

1. If drilling or broadcasting the seed, ensure good seed-to-soil contact by firming the seedbed with a roller or cultipacker after completing seeding operations. Daily seeding when the soil is moist is usually most effective.
2. If seeding is done with a hydroseeder, fertilizer and mulch can be applied with the seed in a slurry mixture.
3. Apply mulch (See Mulching and Compost Mulching Requirements Below) and anchor it in place.

1. Inspect within 24 hours of each rain event and at least once every seven calendar days.
2. Check for erosion or movement of mulch and repair immediately.
3. Monitor for erosion damage and adequate cover (80 percent density); reseed, fertilize, and apply mulch where necessary.
4. If nitrogen deficiency is apparent, top-dress fall seeded wheat or rye seeding with 50 pounds per acre of nitrogen in February or March.

DORMANT SEEDING & FROST SEEDING (SURFACE STABILIZATION MEASURES)

CONTRACTOR TO DETERMINE THE APPROPRIATE SEEDING METHOD BASED ON THE TIME OF YEAR.

- Purposes:
1. To provide early germination and soil stabilization in the spring.
 2. To reduce sediment-toxin stormwater runoff from being transported to downstream areas.
 3. To improve visual aesthetics of construction area.
 4. To repair or enhance previous seeding.

Materials Required:

1. Soil amendments based upon analysis of soil by a soil testing service. (fertilizer, etc.)
2. Seed (information follows)
3. Mulch (straw, hay, wood fiber, etc.) for protection of seedbed, moisture retention and encouragement of plant growth. mulch must be anchored to prevent dispersal by wind or water, may be covered with manufactured erosion control blankets.

Seed Specifications:

Note that seeding done outside of the optimum seeding dates increases the chances of seeding failure, dates may be shortened or extended depending on the location of the site within the State of Indiana. Mulch alone is an acceptable temporary cover and may be used in lieu of temporary seeding, providing that it is appropriately anchored. perennial species may be used as a temporary cover, especially if the area to be seeded will remain idle for more than one year (see permanent seeding).

Temporary Dormant or Frost Seeding

Wheat or Rye: 150 pounds per acre
Spring Oats: 100 pounds per acre
Annual Rye Grass: 60 pounds per acre

Permanent Dormant or Frost Seeding

Open low-maintenance areas (remaining idle more than 6 months):
Perennial ryegrass & white clover: ryegrass 75 pounds per acre + 3 pounds of clover per acre, optimum soil ph 5.6 to 7.0
Perennial ryegrass & tall fescue: ryegrass 45 pounds per acre + 45 pounds of fescue per acre, optimum soil ph 5.6 to 7.0
Tall fescue & white clover: fescue 75 pounds per acre + 3 pounds of white clover per acre, optimum soil ph 5.5 to 7.5
Kentucky bluegrass, smooth bromegrass, switchgrass, timothy, perennial ryegrass, & white clover: bluegrass 30 pounds per acre + 15 pounds of bromegrass per acre + 5 pounds of switchgrass per acre + 6 pounds of timothy per acre + 15 pounds of ryegrass per acre + 3 pounds of white clover per acre, optimum soil ph 5.5 to 7.5

Steep banks and cuts (low-maintenance areas, not mowed):
Smooth bromegrass & red clover: bromes 50 pounds per acre + 30 pounds of red clover per acre, optimum soil ph 5.5 to 7.0
Tall fescue & white clover: fescue 75 pounds per acre + 30 pounds of white clover per acre, optimum soil ph 5.5 to 7.5
Tall fescue & red clover: fescue 75 pounds per acre + 30 pounds of red clover per acre, optimum soil ph 5.5 to 7.5
Orchard grass, red clover & white clover: orchard grass 45 pounds per acre + 30 pounds of red clover per acre + 3 pounds of white clover per acre, optimum soil ph 5.6 to 7.0

Lawns and high-maintenance areas:
Bulgars: bluegrass 210 pounds per acre + 30 pounds of ryegrass per acre + 135 pounds of bluegrass per acre, optimum ph 5.6 to 7.0
Perennial ryegrass & bluegrass: 90 pounds of ryegrass per acre + 45 pounds of bluegrass per acre, optimum soil ph 5.6 to 7.5
Tall fescue (turf type) & bluegrass: fescue 250 pounds per acre + 45 pounds of bluegrass per acre, optimum soil ph 5.5 to 7.5

Channels and areas of concentrated flow:

Perennial ryegrass & white clover: ryegrass 225 pounds per acre + 3 pounds of white clover per acre, optimum soil ph 5.5 to 7.0
Kentucky bluegrass, smooth bromegrass, switchgrass, timothy, perennial ryegrass, & white clover: bluegrass 30 pounds per acre + 15 pounds of bromegrass per acre + 5 pounds of switchgrass per acre + 6 pounds of timothy per acre + 15 pounds of ryegrass per acre + 3 pounds of white clover per acre, optimum soil ph 5.5 to 7.5
Tall fescue & white clover: fescue 225 pounds per acre + 3 pounds of clover per acre, optimum soil ph 5.5 to 7.5
Tall fescue, perennial ryegrass, & Kentucky bluegrass: fescue 225 pounds per acre + 30 pounds of ryegrass per acre + 30 pounds of bluegrass per acre, optimum soil ph 5.5 to 7.5

Note:

- (a) legume seed should be inoculated
- (b) Seeding mixtures containing legumes should be spring-seeded although, the grass may be fall-seeded and the legume frost-seeded
- (c) If legumes are fall-seeded, do so in early fall
- (d) If using mixtures other than those listed above, increase seeding rates by 50 percent over the conventional seeding rates.

Site Preparation:

1. Grade the site to achieve positive drainage.
2. Add topsoil to achieve needed depth for establishment of vegetation.

Dormant Seeding:

1. Test soil to determine pH and nutrient levels.
2. Broadcast soil amendments as recommended by soil test and work into the upper 2 to 4 inches of soil. If testing is not done, apply 200 to 300 pounds per acre of 12-12-12 analysis fertilizer, or equivalent.
3. Apply anchored mulch immediately after completion of grading and addition of soil amendments.
4. Select appropriate seed species (see seed specifications above). Broadcast the seed on top of the mulch and/or into existing ground cover at rates shown. Areas are to be seeded when soil temperatures are below 50 degrees but the soil is not frozen.

Frost Seeding:

1. Test soil to determine pH and nutrient levels.
2. Broadcast soil amendments as recommended by a soil test and work into the upper 2 to 4 inches of soil before it freezes. If testing was not done, apply 200 to 300 pounds per acre of 12-12-12 analysis fertilizer, or equivalent.
3. Select appropriate seed species or mixture (see seed specifications above). Broadcast the seed on the seedbed when the soil is frozen. do not work the seed into the soil.

Maintenance:

1. Inspect at least once every seven calendar days.
2. Check for erosion or movement of mulch.
3. Check for inadequate cover (less than 80 percent density over the soil surface); reseed and mulch in mid to late April if necessary. For best results, reseed within the recommended dates shown under temporary and permanent seeding.
4. Apply 200 to 300 pounds per acre of 12-12-12 analysis fertilizer, or equivalent, between April 15 and May 10 or during periods of vigorous growth.
5. Fertilize turf areas annually. Apply fertilizer in a split application. For cool-season grasses, apply 1/2 in late spring and 1/2 in early fall. For warm-season grasses, apply 1/3 in early spring, 1/3 in late spring, and the remaining 1/3 in mid-summer.

Note:
Required density of vegetative cover = 80 percent or greater over the soil surface.

PERMANENT SEEDING

Site Preparation

1. Grade the site to achieve positive drainage.
2. Add topsoil or compost mulch to achieve needed depth for establishment of vegetation. (Compost material may be added to improve soil moisture holding capacity, soil friability, and nutrient availability.)

Seedbed Preparation

1. Test soil to determine pH and nutrient levels.
2. Apply soil amendments as recommended by the soil test and work into the upper two to four inches of soil. If testing is not done, apply 400 to 600 pounds per acre of 12-12-12 analysis fertilizer, or equivalent.
3. Till the soil to obtain a uniform seedbed. Use a disk or rake, operated across the slope, to work the soil amendments into the upper two to four inches of the soil.

Seeding

Optimum seeding dates are March 1 to May 10 and August 10 to September 30. Permanent seeding done between May 10 and August 10 may need to be irrigated. Seeding outside or beyond optimum seeding dates is still possible with the understanding that reseeding or overseeding may be required if adequate surface cover is not achieved. Reseeding or overseeding can be easily accomplished if the soil surface remains well protected with mulch.

1. Select a seeding mixture and rate from Table 1 Permanent Seeding Recommendations. Select seed mixture based on site conditions, soil pH, intended land use, and expected level of maintenance.
2. Apply seed uniformly with a drill or cultipacker seeder or by broadcasting. Plant or cover the seed to a depth of one-fourth to one-half inch. If drilling or broadcasting the seed, ensure good seed-to-soil contact by firming the seedbed with a roller or cultipacker after completing seeding operations. (If seeding is done with a hydroseeder fertilizer and mulch can be applied with the seed in a slurry mixture.)
3. Mulch all seeded areas and use appropriate methods to anchor the mulch in place. Consider using erosion control blankets on sloping areas and conveyance channels.

Maintenance

- Inspect within 24 hours of each rain event and at least once every seven calendar days until the vegetation is successfully established.
- Characteristics of a successful stand include vigorous dark green or bluishgreen seedlings with a uniform vegetative cover density of 90 percent or more.
- Check for erosion or movement of mulch.
- Repair damaged, bare, gullied, or sparsely vegetated areas and then fertilize, reseed, and apply and anchor mulch.
- If plant cover is sparse or patchy, evaluate the plant materials chosen, soil fertility, moisture condition, and mulch application; repair affected areas either by overseeding or preparing a new seedbed and reseeding. Apply and anchor mulch on the newly seeded areas.
- If vegetation fails to grow, consider soil testing to determine soil pH or nutrient deficiency problems. (Contact your soil and water conservation district or cooperative extension office for assistance.)
- If additional fertilization is needed to get a satisfactory stand, do so according to soil test recommendations.
- Add fertilizer the following growing season. Fertilize according to soil test recommendations.
- Fertilize turf areas annually. Apply fertilizer in a split application. For cool-season grasses, apply one-half of the fertilizer in late spring and one-half in early fall. For warm-season grasses, apply one-third in early spring, one-third in late spring, and the remaining one-third in mid-summer.

Table 1 Permanent Seeding Recommendations

This table provides several seed mixture options. Additional seed mixtures are available commercially. When selecting a mixture, consider intended land use and site conditions, including soil properties (e.g., soil pH and drainage), slope aspect, and the tolerance of each species to shade and drought.

Open Low-Maintenance Areas (Remaining idle more than six months)

Seed Mixture	Rate per Acre Pure Live Seed	Optimum Soil pH
1. Perennial ryegrass – white clover 1	70 lbs. 2 lbs.	5.6 to 7.0
2. Perennial ryegrass – tall fescue 2	70 lbs. 50 lbs.	5.6 to 7.0
3. Tall fescue 2 – white clover 1	70 lbs. 2 lbs.	5.5 to 7.5

Lawns and High-Maintenance Areas

Seed Mixture	Rate per Acre Pure Live Seed	Optimum Soil pH
1. Bluegrass	140 lbs.	5.5 to 7.0
2. Perennial ryegrass (turf type)	60 lbs. 90 lbs.	5.6 to 7.0
3. Tall fescue (turf type)2 –bluegrass	170 lbs. 30 lbs.	5.6 to 7.5

Channels and Areas of Concentrated Flow

Seed Mixture	Rate per Acre Pure Live Seed	Optimum Soil pH
1. Perennial ryegrass – white 1	150 lbs. 2 lbs.	5.5 to 7.0
2. Kentucky bluegrass – smooth bromegrass – switchgrass – timothy – perennial ryegrass – white clover	20 lbs. 10 lbs. 3 lbs. 4 lbs. 10 lbs. 2 lbs.	5.5 to 7.5
3. Tall fescue 1 – white clover	150 lbs. 2 lbs.	5.5 to 7.5
4. Tall fescue 2 – perennial ryegrass – Kentucky bluegrass1	150 lbs. 20 lbs. 20 lbs.	5.5 to 7.5

1. For best results: (a) legume seed should be inoculated; (b) seeding mixtures containing legumes should preferably be spring-seeded, although the grass may be fall-seeded and the legume frost-seeded (see Dormant Seeding and Frost Seeding on page 41); and (c) if legumes are fall-seeded, do so in early fall.

2. Tall fescue provides little cover, and may be toxic to some species of wildlife. The Indiana Department of Natural Resources recognizes the need for additional research on alternatives such as buffalograss, orchardgrass, smooth bromegrass, and switchgrass. This research, in conjunction with demonstration areas, should focus on erosion control characteristics, wildlife toxicity, turf durability, and drought resistance.

Notes

1. A sod or wheat companion or nurse crop may be used with any of the above permanent seeding mixtures, at the following rates:
(a) spring oats – one-fourth to three-fourths bushel per acre
(b) wheat – no more than one-half bushel per acre
2. A tall fescue for fertilizer, seed, and mulch to wash exists on steep banks, cuts, and in channels and areas of concentrated flow.

SOD

Installation

Sod should not be installed during hot weather, on dry soil, frozen soil, compacted clay, loose sand or gravelly substrate soils, aggregate, or pesticide treated soil. The ideal time to lay sod is May 1 to June 1 or September 1 to September 30, although it can be installed as early as March 15 if available or June 1 to September 1 if irrigated.

Site Preparation

1. Apply topsoil if existing soil conditions are unsuitable for establishing vegetation.
2. Grade the site to achieve positive drainage and create a smooth, firm soil surface.
3. Where applicable, use a chisel plow, disk, harrow, or rake to break up compacted soils and create a favorable rooting depth of six to eight inches.

Sod Bed Preparation

1. Test soil to determine pH and nutrient levels.
2. If soil pH is too acidic for the grass sod to be installed, apply lime according to soil test results or at the rate recommended by the sod supplier.
3. Apply fertilizer as recommended by the soil test. If testing was not done, apply 400 to 600 pounds per acre of 12-12-12 analysis fertilizer, or equivalent.
4. Work the soil amendments into the upper two to four inches of soil with a disk or rake operated across the slope.
5. Rake or harrow the area to achieve a smooth final grade and then roll or cultipack the soil surface to create a firm surface on which to lay the sod.

Laying the Sod

1. Install sod within thirty-six hours of its cutting.
2. Store the sod in a shaded location during installation.
3. Immediately before laying the sod, rake the soil surface to break any crust. (If the weather is hot, lightly irrigate the soil surface prior to laying the sod.)
4. Lay sod strips in a brick-like pattern.
5. Butt all joints tightly against each other (do not stretch or overlap them), using a knife or mason's trowel to trim and fit sod into irregularly shaped areas.
6. Roll the sod lightly after installation to ensure firm contact between the sod and soil.
7. Irrigate newly sodded areas until the underlying soil is wet to a depth of four inches, and then keep moist until the grass takes root.

Slope Application

1. Install sod strips with the longest dimension perpendicular to the slope.
2. Where slopes exceed a ratio of 3:1, staple or stake each strip at the corners and in the middle.

Channel Application

(Sodding provides quicker protection than seeding and may reduce the risk of early washout.)

1. Excavate the channel, allowing for the full thickness of the sod.
2. Lay sod strips with the longest dimension perpendicular to channel flow.
3. Staple or stake each strip of sod at the corners and in the middle.
4. Staple jute or biodegradable polypropylene netting over the sodded area to minimize the potential for washout during establishment.

Maintenance

- Inspect within 24 hours of each rain event and at least once every seven calendar days until sod is well rooted.
- Keep sod moist until fully rooted.
- After sod is well-rooted (two to three weeks), maintain a plant height of two to three inches.
- Time mowing to avoid ruts in turf.
- Fertilize turf areas annually. Apply fertilizer in a split application. For coolseason grasses, apply one-half of the fertilizer in late spring and one-half in early fall. For warm-season grasses, apply one-third in early spring, one-third in late spring and one-third in mid-summer.

MULCHING

Table 1. Mulch Specifications

Material 1	Rate per Acre	Comments
Straw or Hay	2 tons	Should be dry; free of undesirable seeds. Spread by hand or machine. Must be crimped or anchored (See Table 2).
Wood fiber or cellulose	1 ton	Apply with a hydraulic mulch machine and use with tackling agent.

- 1 Mulching is not recommended in concentrated flows. Consider erosion control blankets or other stabilization methods.

Coverage

The mulch should have a uniform density of at least 75 percent over the soil surface.

Anchoring

Table 2. Mulch Anchoring Methods

Anchoring Method	How to Apply
Mulch anchoring tool or farm disk (dull, serrated, and blades set straight)	Crimp or punch the straw or hay two to four inches into the soil. Operate machinery on the contour of the slope.
Cleating with dozer tracks	Operate dozer up and down slope to prevent formation of rills by dozer cleats
Wood hydramulch fibers	Apply according to manufacturer's recommendations.
Synthetic tackifiers, binders, or soil stabilizers	Apply according to manufacturer's recommendations.
Netting (synthetic or biodegradable material)	Install netting immediately after applying mulch. Anchor netting with staples. Edges of netting strips should overlap with each up-slope strip overlapping four to six inches over the adjacent down-slope strip. Best suited to slope applications. In most instances, installation details are site specific, so manufacturer's recommendations should be followed.

- 1 All forms of mulch must be anchored to prevent displacement by wind and/or water.

Application

1. Apply mulch at the recommended rate shown in Table 1.
2. Spread the mulch material uniformly by hand, hayfork, mulch blower, or hydraulic mulch machine. After spreading, no more than 25 percent of the ground should be visible.
3. Anchor straw or hay mulch immediately after application. The mulch can be anchored using one of the methods listed below:
 - a. Crimp with a mulch anchoring tool, a weighted farm disk with dull serrated blades set straight, or track cleats of a bulldozer.
 - b. Apply hydraulic mulch with short cellulose fibers.
 - c. Apply a liquid tackifier, or
 - d. Cover with netting secured by staples.

Maintenance

- Inspect within 24 hours of each rain event and at least once a week.
- Check for erosion or movement of mulch; repair damaged areas, reseed, apply new mulch and anchor the mulch in place.
- Continue inspections until vegetation is firmly established.
- If erosion is severe or recurring, use erosion control blankets or other more substantial stabilization methods to protect the area.



SOILS MAP

Not To Scale

SOILS LEGEND Table-Hydrologic Soil Group				
SOIL SYMBOL	SOIL NAME	HYDRO GROUP	Acres	% of AOI
YbVA	Brookston silty clay loam –Urban land complex, 0 to 2 percent slopes	B/D	6.7±	45.5%
YcuA	Crosby silt loam –Urban land complex, 0 to 2 percent slopes	C/D	7.4±	50.6%
YmsB2	Miami silt loam–Urban land complex, 2 to 6 percent slopes, eroded	C/D	0.6±	3.9%
Totals for Area of Interest			14.7 Acres±	100%

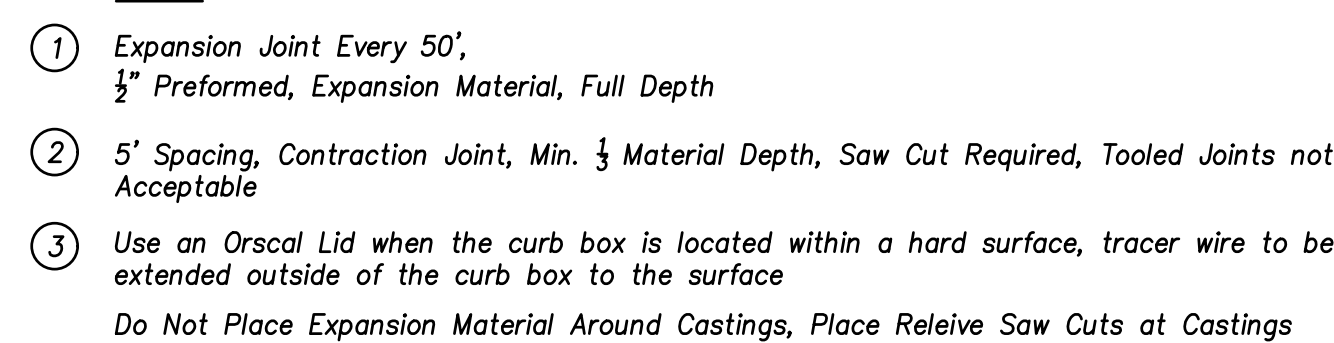
Source: NRCS Web Soil Survey

1. Accessible parking spaces shall be identified by a sign showing the International Symbol of Accessibility, complying with the latest Accessibility Standards. Signs shall not be obscured by a vehicle parked in these spaces.
2. It is the responsibility of the Contractor to ensure the construction of sidewalks, ramps, and parking spaces meet the latest ADA requirements.
3. Pavement markings shall be blue.

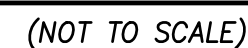
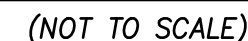
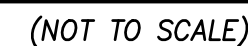
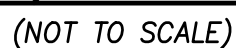
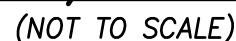


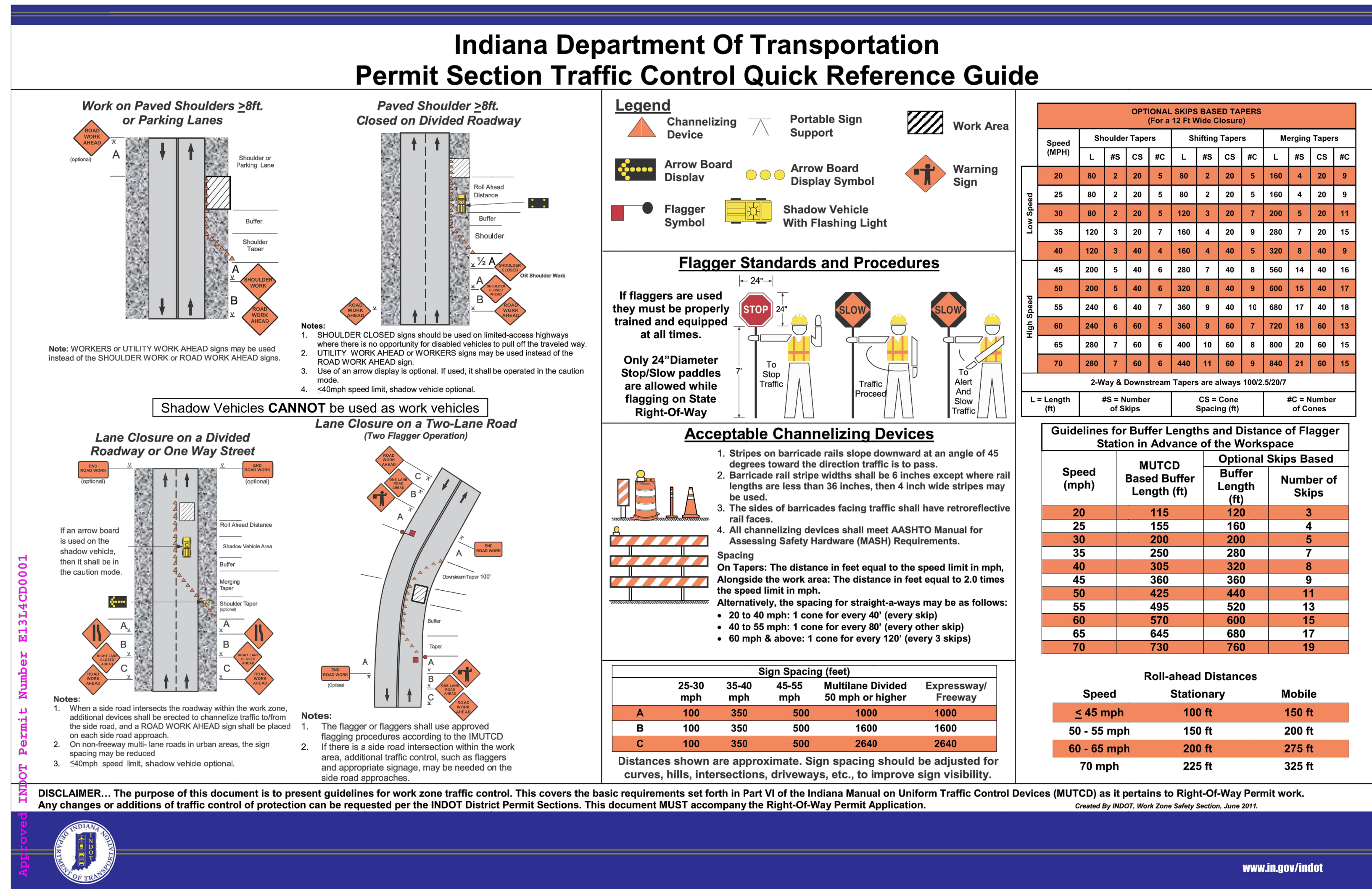
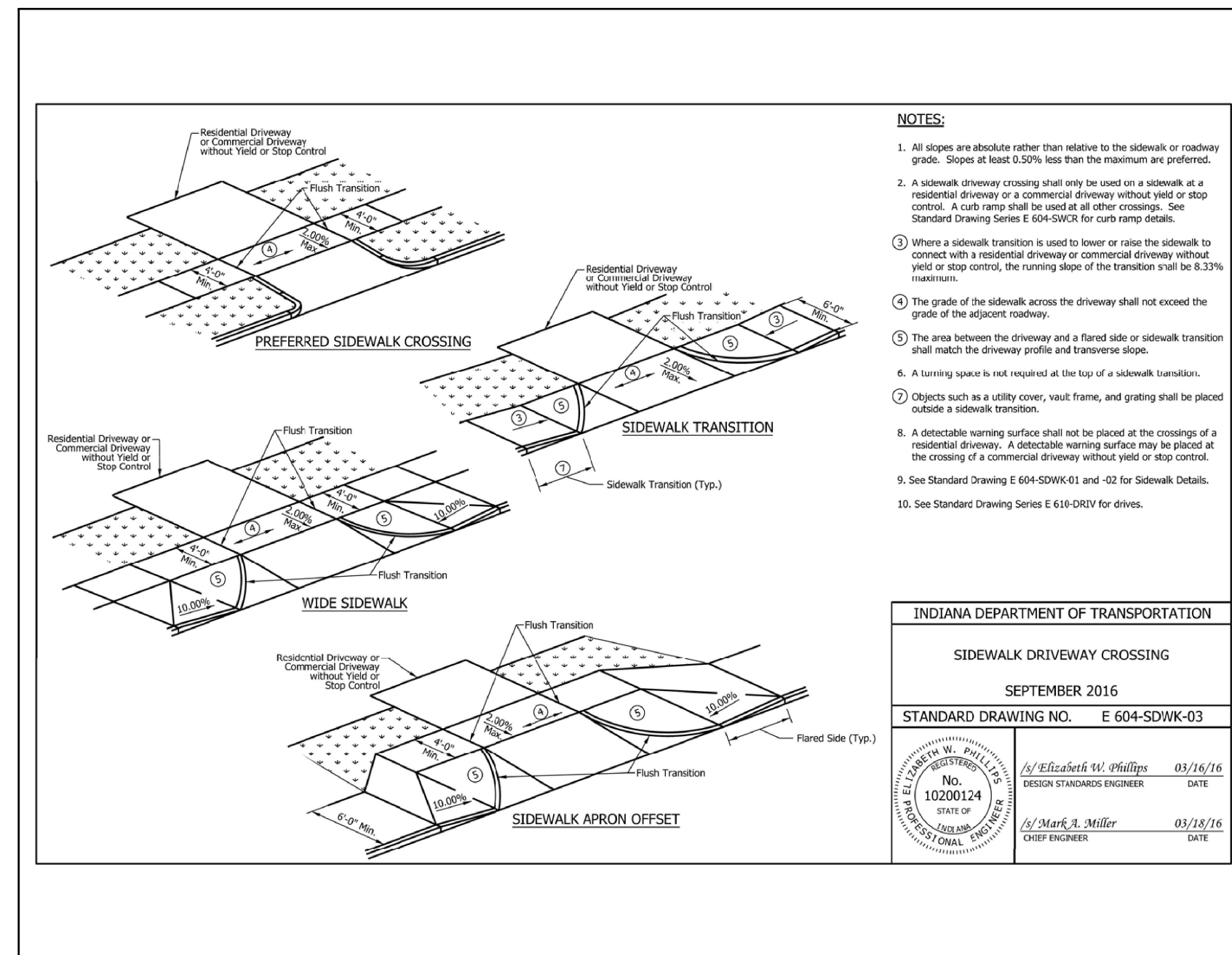
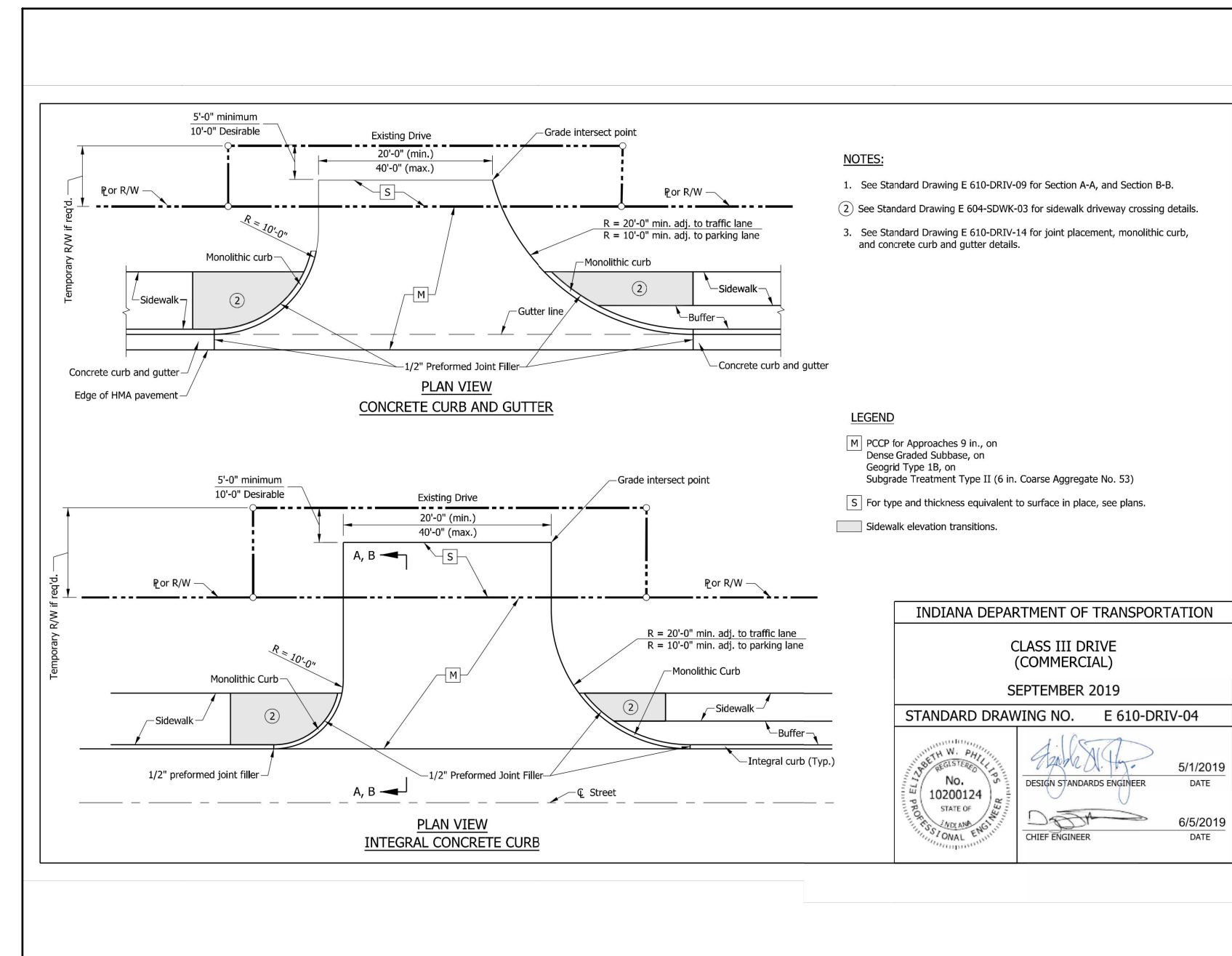
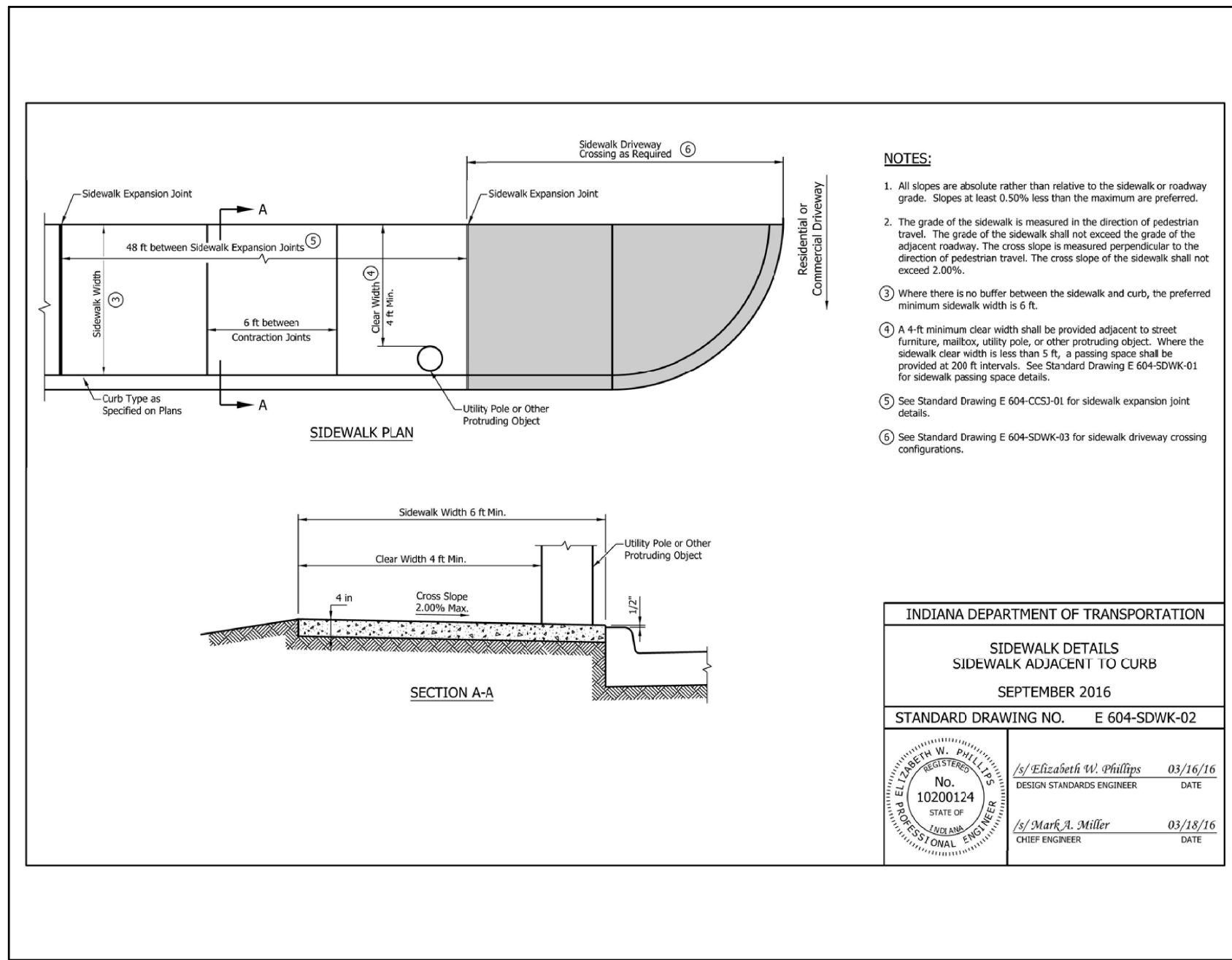
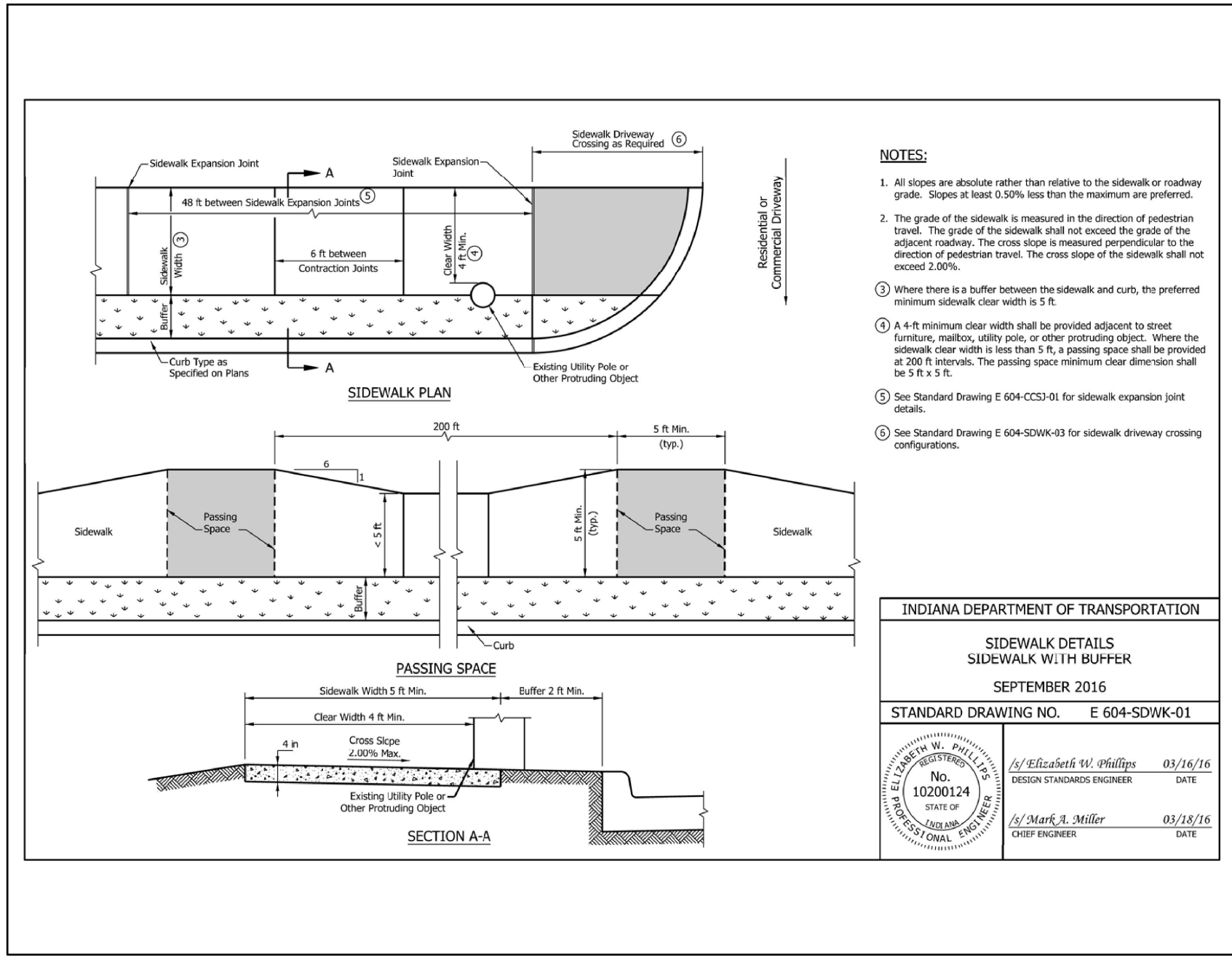
4" Solid Line Pavement Markings

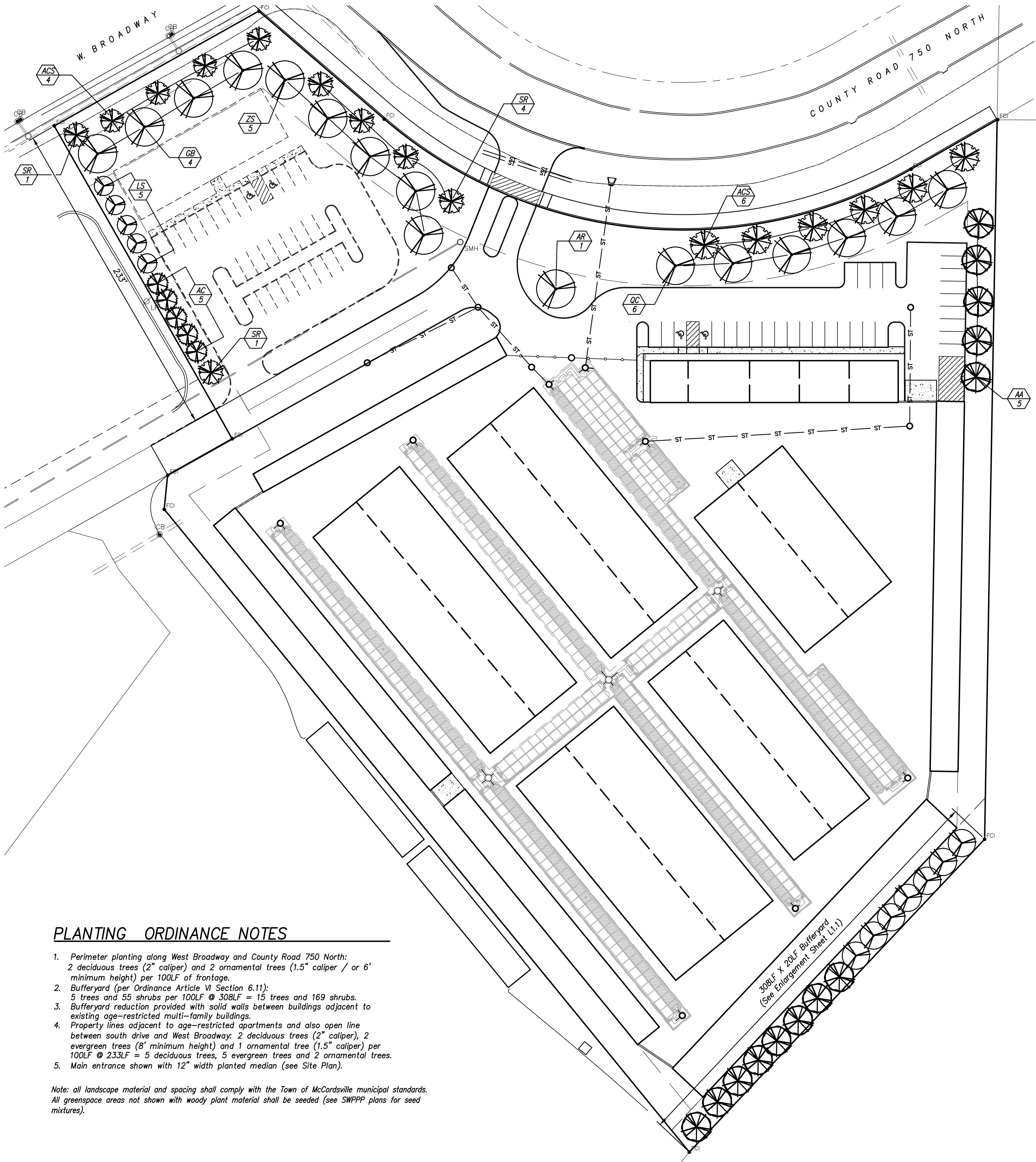
(NOT TO SCALE)



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PLANTING ORDINANCE NOTES

1. Perimeter planting along West Broadway and County Road 750 North: 2 deciduous trees (2" caliper) and 2 ornamental trees (1.5" caliper / or 6' minimum height) per 100LF of frontage.
2. Bufferyard (per Ordinance Article VI Section 6.11): 5 trees and 55 shrubs per 100LF @ 308LF = 15 trees and 169 shrubs.
3. Bufferyard reduction provided with solid walls between buildings adjacent to existing age-restricted multi-family buildings.
4. Property lines adjacent to age-restricted apartments and also open line between south drive and West Broadway: 2 deciduous trees (2" caliper), 2 evergreen trees (8' minimum height) and 1 ornamental tree (1.5" caliper) per 100LF @ 233LF = 5 deciduous trees, 5 evergreen trees and 2 ornamental trees.
5. Main entrance shown with 12" width planted median (see Site Plan).

Note: all landscape material and spacing shall comply with the Town of McCordsville municipal standards. All greenspace areas not shown with woody plant material shall be seeded (see SWPPP plans for seed mixtures).

PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	CONDITION	REMARKS
Note: Plants specified are minimum size shown; larger material and rootball conditions are acceptable.						
DECIDUOUS SHADE/STREET TREES						
AA	Acer x 'Armstrong'	Armstrong Hybrid Maple	5	2" Cal.	B & B	Matching
AR	Acer rubrum 'October Glory'	October Glory Red Maple	1	2" Cal.	B & B	-
GB	Ginkgo biloba 'Princeton Sentry'	Princeton Sentry Maidenhair Tree	4	2" Cal.	B & B	Male specimen
LS	Liquidambar styraciflua 'Slender Silhouette'	Slender Silhouette American Sweetgum	5	2" Cal.	B & B	Matching
QC	Quercus coccinea	Scarlet Oak	6	2" Cal.	B & B	-
ZS	Zelkova serrata 'Village Green'	Village Green Japanese Zelkova	5	2" Cal.	B & B	-

EVERGREEN TREES

AB	Abies concolor	White Fir	5	8' Height	B & B	Matching
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UNDERSTORY/ORNAMENTAL TREES

AA	Amelanchier canadensis 'Sprizam'	Spring Glory Shadblow Serviceberry	10	1-1/2" Cal. B&B or Cont.	Tree Form	-
SR	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	6	1-1/2" Cal. B&B or Cont.	-	-

ABONMARCHÉ

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Engineering / Architecture / Land Surveying

GATEWAY CROSSING
McCORDSVILLE, INDIANA

PLANTING PLAN

SHEET TITLE:

DRAWN BY:
EJF

DESIGNED BY:
SRF

PM REVIEW:
SRF

QA/QC REVIEW:
RSP

DATE:
09/08/2023

SEAL:

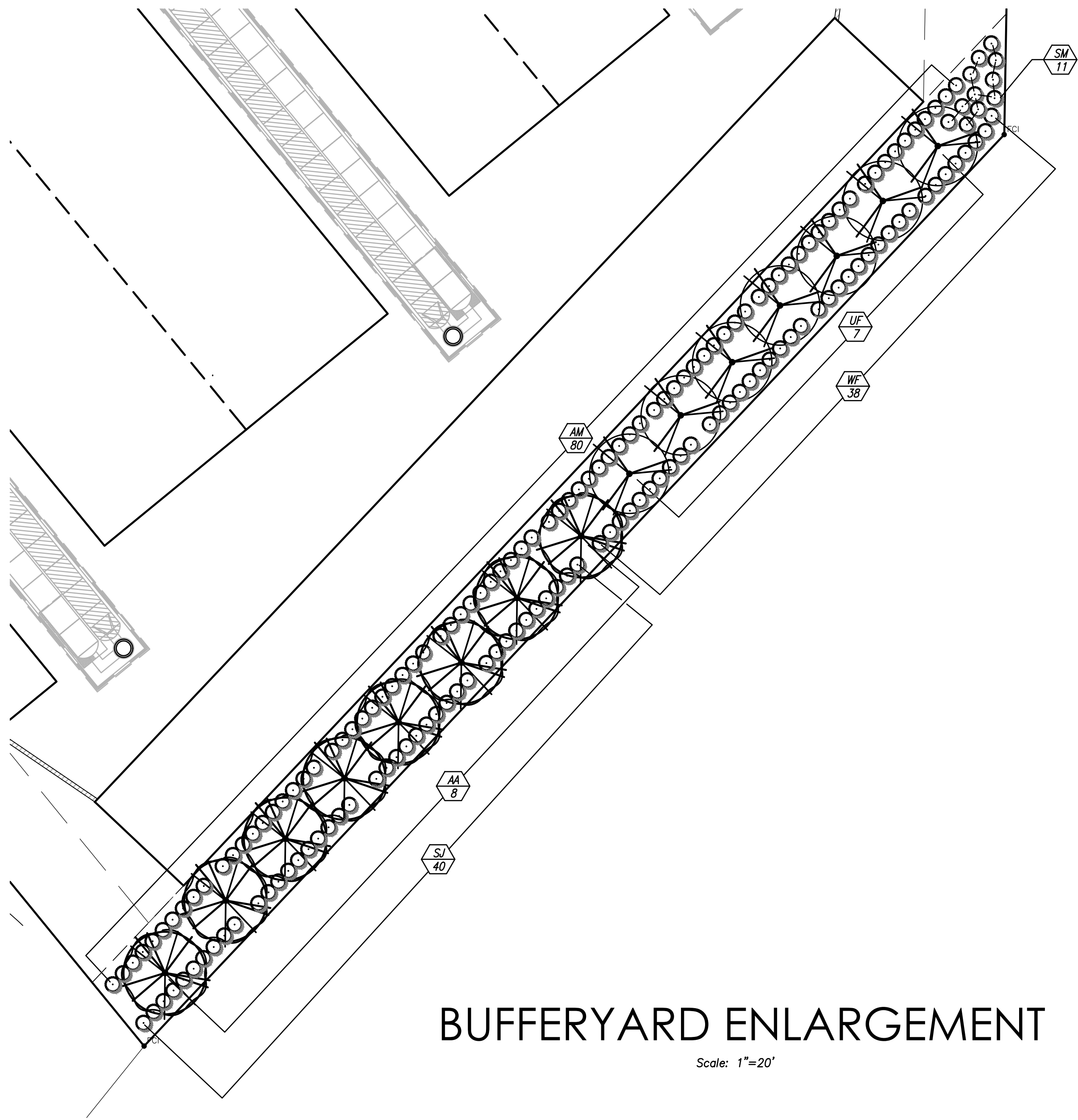
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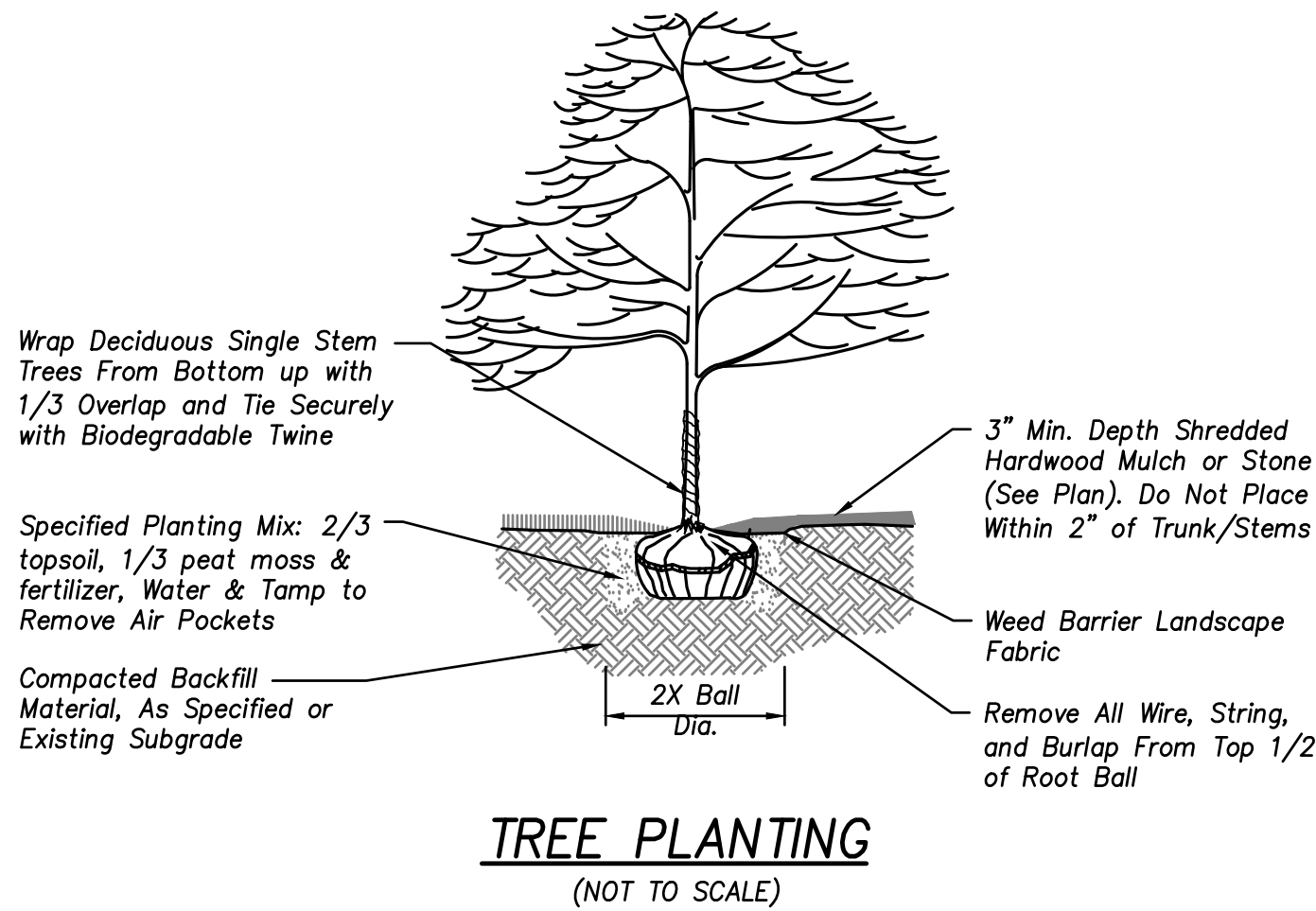
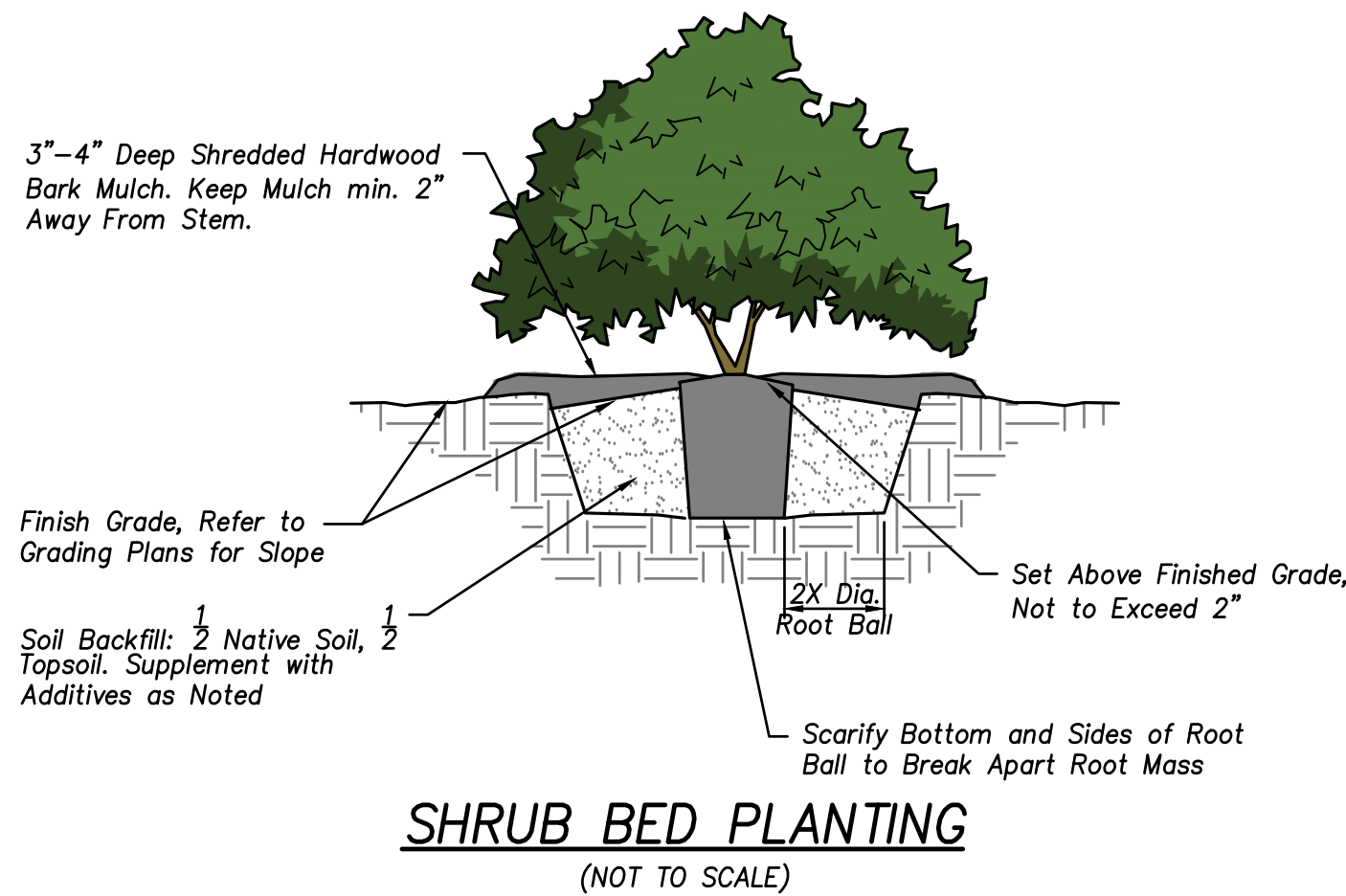
ACI JOB #
22-0218

SHEET NO.
L1.0



BUFFERYARD ENLARGEMENT

Scale: 1"=20'



PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	CONDITION	REMARKS
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Note: Plants specified are minimum size shown; larger material and rootball conditions are acceptable.

DECIDUOUS TREES

AA	Acer x 'Armstrong'	Armstrong Hybrid Maple	8	2" Cal.	B & B	-
UF	Ulmus x 'Frontier'	Frontier Hybrid Elm	7	2" Cal.	B & B	-

DECIDUOUS SHRUBS

AM	Aronia melanocarpa 'UCONNAM166' PP28789	Low Scape Hedger Chokeberry	80	18" Height	#3 Cont.	-
SJ	Spiraea japonica 'Little Princess'	Little Princess Japanese Spiraea	40	15" Height	#3 Cont.	-
SM	Syringa meyeri 'Palibin'	Palibin Dwarf Meyer Lilac	38	24" Height	#5 Cont.	-
WF	Weigela florida 'Minuet'	Minuet Old Fashioned Weigela	11	18" Height	#3 Cont.	-

PLANTING NOTES AND SPECIFICATIONS

- In case of discrepancies between the plan and the plant list, the plan shall dictate and the Project Designer/Landscape Architect is to be notified.
- If specified plant materials are not available, the Contractor shall notify the Designer prior to the bid in writing for substitutions to be approved. All plants shall be inspected and tagged with project I.D. at nursery or Contractor's operations prior to moving to the job site. Specimens may be inspected, approved or rejected on the job site by Designer.
- Final placement of plant materials, etc., shall be approved by Designer before planting operations are to proceed. All tree locations shall be marked with a wood stake indicating variety and size of tree. All ground cover and planting bed lines shall be marked with highly visible paint lines for reference. All stakes and tags shall be removed following planting operations designer reserves the right to adjust plant locations on the site.
- All plants shall meet or exceed American Standards For Nursery Stock, 2004 edition, as set forth by American Association Of Nurserymen.
- The Landscape Contractor shall obtain and pay for all permits and fees that may be required for their portion of work.
- Final grading and all topsoil placement for lawn and planting areas to be completed by others prior to the start of landscape work.
- Plants and all other materials to be stored on site will be placed where they will not conflict with Owner or construction operations. Site shall be maintained in clean condition; plants kept onsite shall be watered daily and root zone thoroughly watered within four hours of planting.
- All tree rings and shrub beds to be covered with a 3" layer of shredded hardwood mulch. Mulch source shall be approved by Designer and shall be uniform in texture and color. No mulch with sawdust or debris, or processed tree trimmings, will be allowed. Use landscape fabric where appropriate for beds not containing spreading groundcover.
- Lawns shall be seeded or sodded following scarifying, final grading, fertilizing and raking. See SWPPP plans for seed mixtures.
- All disturbed lawn areas shall be seeded or sodded. See SWPPP plans also for erosion control measures.
- All lawns shall be guaranteed to have full uniform stand of acceptable grass at the end of one year guarantee period with no bare spots comprising more than 2% of any lawn area. Any area so noted to be seeded or sodded until an acceptable stand of grass is established.
- Backfill for tree planting shall be 75% approved or onsite topsoil and 25% approved peat moss. Top layer of backfill shall be 100% existing topsoil. A 5-10-5 analysis or approved substitute slow release fertilizer shall be incorporated into backfill at approved rates.
- Field-adjust final locations of trees and other plants as needed to avoid utility lines, pipes, swales or site features.
- All landscape plantings to be maintained by Contractor for 60 days following final inspection by Designer or Owner's representative. All seeded lawns shall be maintained for 60 days and sodded lawns for 30 days following final inspection by Designer after written request from the Landscape Contractor. Maintenance to include watering, weeding, cultivating, mulching, mowing, and all other necessary operations required for proper establishment of lawns and plantings.
- All plant material shall be guaranteed for a period of a one year warranty following final inspection by Designer and/or Owner. All tree staking and other temporary material, if used, must be removed and disposed of offsite at the end of this period, plant material identified as dead or unsatisfactory by Designer or Owner's representative shall be replaced at no additional charge by the Contractor.

