

November 20, 2024
Architectural Project #2408
GRIFFIN BIKE PARK CLUBHOUSE

ADDENDUM NO. 1

PROJECT: Griffin Bike Park Clubhouse
Vigo County Parks and Recreation Department

THIS LETTER CONSTITUTES ADDENDUM NO.1

The information contained in this Addendum shall become a part of the basic plans and specifications, the same as is originally incorporated therein. The original plans and specifications shall remain in their entirety, except as modified by the Addendum. The items herein shall supersede information in each of the specifications and plans.

The proposed contract documents for this work are modified as follows:

Item #1 Civil set of documents has been added to bid drawings. **(10 Sheets)**

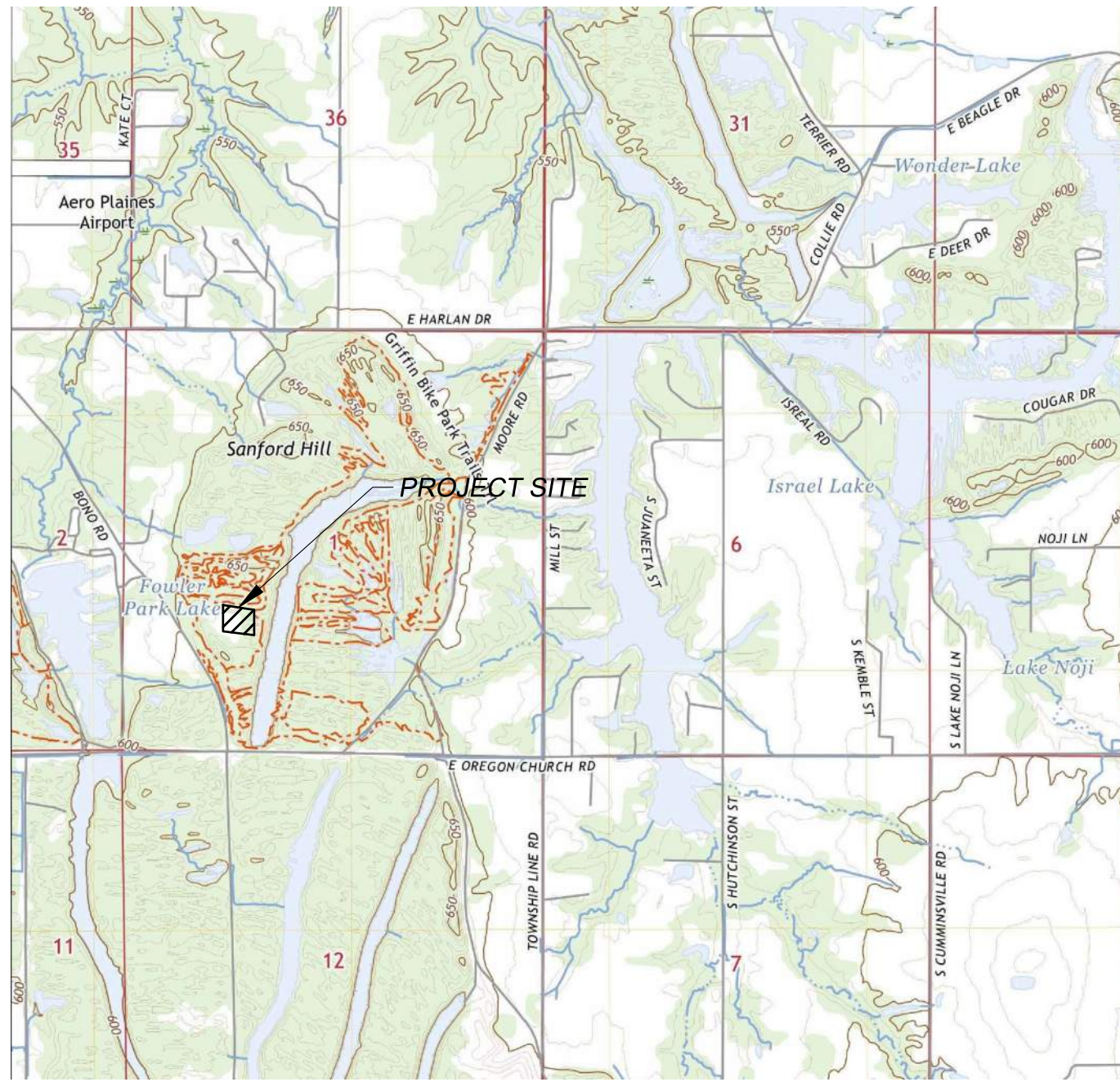
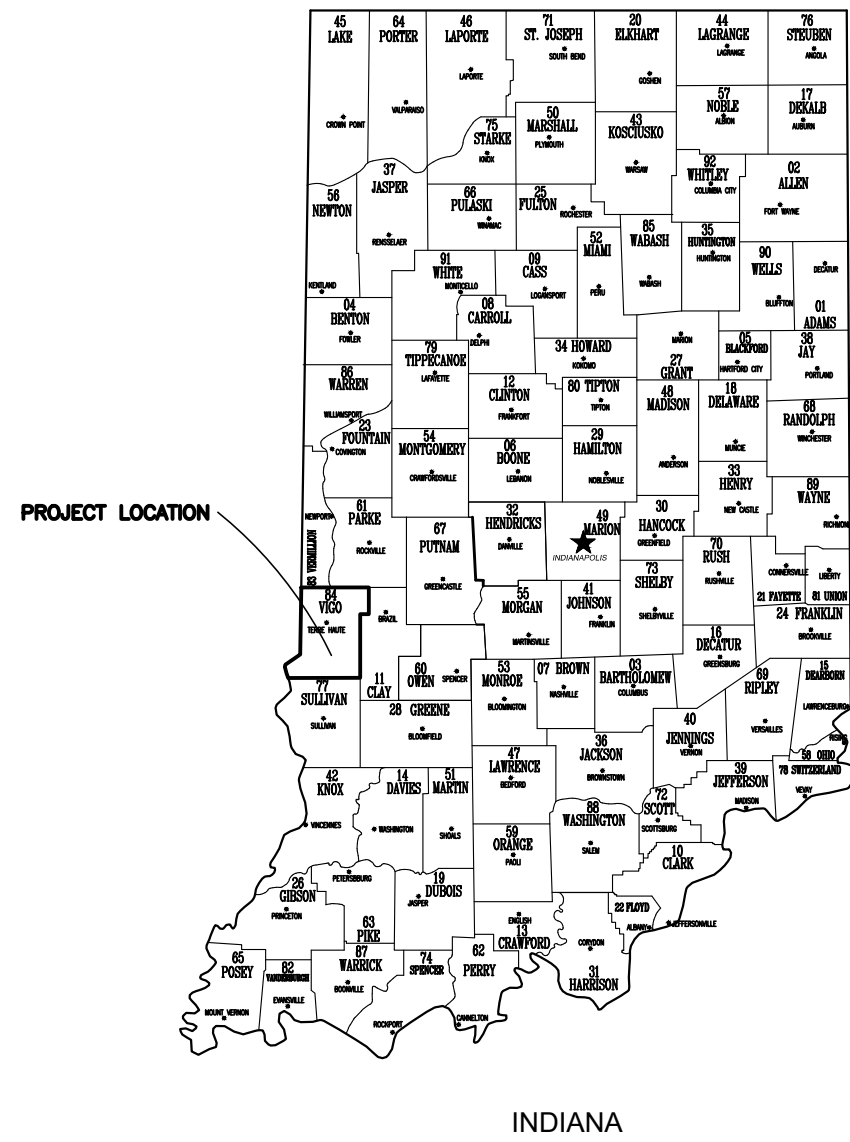
CONSTRUCTION PLANS FOR GRIFFIN BIKE PARK CLUBHOUSE

10700 BONO ROAD
TERRE HAUTE, INDIANA 47802

PART OF THE SW ¼ OF SECTION 1, TOWNSHIP 10N, RANGE 9W
LINTON TOWNSHIP IN VIGO COUNTY

- I N D E X -

SHEET NUMBER	DESCRIPTION
C001	TITLE SHEET
C002	GENERAL NOTES AND LEGEND
C003	EXISTING CONDITIONS & DEMOLITION PLAN
C101	SITE PLAN
C201	GRADING PLAN
C301	UTILITY PLAN
C401	EROSION CONTROL PLANS
C402	EROSION CONTROL DETAILS
C901	CONSTRUCTION DETAILS
C902	STANDARD SPECIFICATIONS



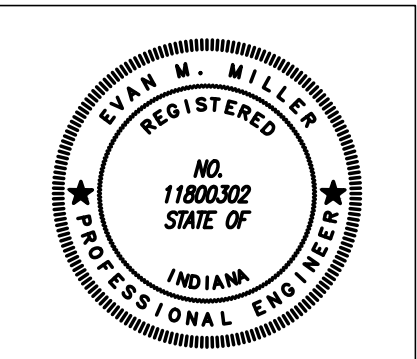
North
Latitude 39°20'12"N
Longitude 87°21'55"W



OWNER:
VIGO COUNTY PARKS AND RECREATION DEPT.
ADAM GROSSMAN - SUPERINTENDENT
155 OAK STREET
TERRE HAUTE, IN 47807
(812) 462-3392
ADAM.GROSSMAN@VIGOCOUNTY.IN.GOV



ENGINEER:
ALIGN CEC, INC.
EVAN MILLER, P.E.
1216 S. 3RD STREET
TERRE HAUTE, IN 47802
(812) 238-9731
EMILLER@ALIGNCEC.COM



PLANS PREPARED BY: *Ev Miller*
EVAN MILLER, P.E.

DATE: 11/19/2024

GENERAL NOTES

- ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE CODES, SPECIFICATIONS, LOCAL ORDINANCES AND INDUSTRY STANDARDS.
- THE ENGINEER HAS APPLIED FOR CONSTRUCTION PERMITS FROM IDEM FOR CSGP AND VIGO COUNTY - COUNTY ENGINEER FOR SITE DEVELOPMENT APPROVAL. THE CONTRACTOR SHALL OBTAIN ALL OTHER PERMITS AND PAY ALL FEES REQUIRED TO CONSTRUCT THE PROJECT.
- ROAD CLOSURES ARE PERMITTED ONLY WITH APPROVAL FROM VIGO COUNTY HIGHWAY DEPARTMENT.
- THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LACK OF LOCATION OR MISSED LOCATION OF EXISTING UTILITIES. ALL LOCATIONS, SIZES, AND INVERTS OF EXISTING UTILITIES SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE. HOWEVER, THE ENGINEER DOES NOT GUARANTEE OR ASSURE THAT SUCH INFORMATION IS TRUE OR EVEN APPROXIMATE. THE CONTRACTOR SHALL DETERMINE WHICH UTILITIES CONFLICT WITH THE PROPOSED IMPROVEMENTS AND VERIFY THE LOCATIONS, SIZES, AND INVERTS. THE CONTRACTOR SHALL ADJUST WORK ACCORDINGLY AND NOTIFY THE ENGINEER OF ANY SUCH CONFLICTS. THE CONTRACTOR SHALL REFER TO APPLICABLE SECTIONS OF THE CONTRACT SPECIFICATIONS RELATIVE TO THE ABOVE. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AND VERIFY ALL UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH UTILITY COMPANIES FOR PLANNED RELOCATION WORK.
- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF OVERHEAD OBSTRUCTIONS, ESPECIALLY OVERHEAD ELECTRIC LINES.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO AVOID EXISTING UTILITIES, AND PERFORM ANY REQUIRED REPAIRS. IN ADDITION TO ALL UTILITY LINES, THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE AND REPAIRS TO BURIED FIBER OPTIC CABLE, FIELD DRAINAGE TILES, AND PRIVATE IRRIGATION SYSTEMS. THE CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER WHEN UTILITIES OR OTHER SUBSURFACE LINES ARE DAMAGED. INDIANA UNDERGROUND UTILITIES PROTECTION SERVICE SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO BEGINNING ANY WORK. INDIANA UNDERGROUND UTILITIES PROTECTION SERVICE TELEPHONE NUMBER IS 811.
- THE ENGINEER SHALL BE NOTIFIED OF ANY FIELD TILES FOUND DURING CONSTRUCTION OPERATIONS. IF DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL, AT HIS EXPENSE, REPAIR THE DAMAGED PORTION AND SHALL, IF NECESSARY, EXTEND THE TILE TO THE NEAREST STORM INLET, MANHOLE, OR POINT OF POSSIBLE OUTLET IN ACCORDANCE WITH LOCAL/STATE REQUIREMENTS, AND AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING WATER NEEDED FOR ANY TESTING, CLEANING, ETC.
- PIPE APPURTENANCES ARE NOT SPECIFICALLY CALLED OUT ON THE PLANS. THE CONTRACTOR'S BID SHALL INCLUDE ALL APPURTENANCES NECESSARY FOR CONSTRUCTION.
- THE COORDINATE VALUES SHOWN ARE IN THE INDIANA STATE PLANE COORDINATE SYSTEM WEST ZONE ON THE 1983 NORTH AMERICAN DATUM, US SURVEY FEET. SITE CONTOURS WERE GENERATED FROM A FIELD SURVEY.
- ALL GRADES ARE TO BE VERIFIED IN THE FIELD. THE ENGINEER RESERVES THE RIGHT TO ADJUST GRADES TO MINIMIZE GRADING AFTER FIELD STUDY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING.
- DO NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED BY THE UTILITY COMPANY IN WRITING.
- ALL CONSTRUCTION SHALL BE PERFORMED IN A MANNER THAT DOES NOT ALLOW ERODED SOIL TO LEAVE THE PROPERTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES UNTIL CONSTRUCTION IS COMPLETE AND SOIL CONDITIONS ARE STABILIZED ACCORDING TO THE EROSION CONTROL PLAN & SPECIFICATIONS. KEEP ALL MUD, STONE RESIDUE, AND OTHER WATER-BORN MATERIAL OFF OF THE PAVEMENT SURFACE.
- ALL AREAS DISTURBED BY CONSTRUCTION AND DESIGNATED FOR GRASS, INCLUDING THE FILLED AREA BEHIND CURB SHALL BE GRADED FOR POSITIVE DRAINAGE WITH A MINIMUM OF 6" OF TOPSOIL. ALL AREAS SHALL BE PREPARED, FERTILIZED, PLANTED, AND MULCHED BY THE CONTRACTOR.
- PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH MUTCD, LATEST REVISION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR QUALITY CONTROL. THE OWNER MAY CHOOSE TO HAVE INDEPENDENT INSPECTION OR TESTING FOR VARIOUS ITEMS. THIS DOES NOT RELIEVE THE CONTRACTOR OF HIS/HER DUTIES TO CONSTRUCT THE PROJECT IN ACCORDANCE WITH PLANS AND SPECIFICATIONS, OR TO PERFORM HIS/HER OWN TESTING TO ENSURE THEY ARE IN COMPLIANCE.
- REFER TO ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS.

KEY NOTES

- SUBGRADE SHALL BE PREPARED AND COMPACTED IN ACCORDANCE WITH INDOT STANDARD SPEC SECTION 207, SUBGRADE TREATMENT TYPE III. COST OF SUBGRADE PREPARATION SHALL BE INCLUDED IN THE COST OF OTHER PAY ITEMS. CONTRACTOR SHALL PROVIDE A MINIMUM 24-HR NOTICE TO OWNER AND ENGINEER FOR SCHEDULED PROOFROLL ACTIVITIES.
- A GEOTECHNICAL REPORT WAS NOT PROVIDED BY OWNER OR ARCHITECT. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF SOIL SUITABILITY FOR SITE CONSTRUCTION. THIS SHALL INCLUDE ANY ADDITIONAL INVESTIGATIONS OR TESTING DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN 18" VERTICAL SEPARATION AND 10' HORIZONTAL SEPARATION BETWEEN WATER MAINS, HYDRANTS, SEWER PIPES, AND STRUCTURES (SANITARY AND STORM).

UTILITIES

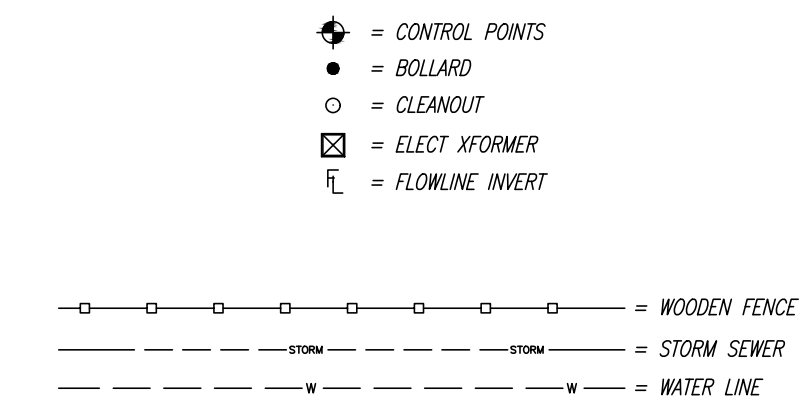
VIGO COUNTY HIGHWAY DEPARTMENT COUNTY ENGINEER - LARRY ROBBINS, P.E. LARRY.ROBBINS@VIGOCOUNTY.IN.GOV (812) 460-1590	DUKE ENERGY (ELECTRIC) SENIOR ENGINEERING TECHNOLOGIST CIERA ERNISCH CIERA.ERNISCH@DUKE-ENERGY.COM OFFICE: (812) 231-6785
VIGO COUNTY HEALTH DEPARTMENT STEVE THOMPSON 147 OAK STREET TERRE HAUTE, IN 47807 (812) 462-3428	
SULLIVAN VIGO RURAL WATER CORP. CAMERON THOMPSON 11904 S. U.S. HIGHWAY 41 TERRE HAUTE, IN 47802 OFFICE: (812) 299-8909	

CONTROL POINTS

BENCHMARK	ACP #2
SCRIBED "X"	IRON PIN
N: 1489310.002	N: 1489190.390
E: 2872837.201	E: 2873112.881
EL = 619.30'	EL = 624.30'

INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CURRENT EDITION, SHALL BE USED WITH THESE PLANS.

EXISTING LEGEND



NO.	DATE	REVISIONS	BY	CHECKED

Section 1, Township 10 North, Range 9 West of the Second Principal Meridian, Linton Township, City of Terre Haute, Vigo County, Indiana

GRIFFIN BIKE PARK CLUBHOUSE
10700 BONO ROAD
TERRE HAUTE, INDIANA 47802

ALIGN

1285 S. Jackson Street, Suite B
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EVAN M. MILLER
REGISTERED
NO. 11800302
STATE OF INDIANA
PROFESSIONAL ENGINEER

Evan Miller

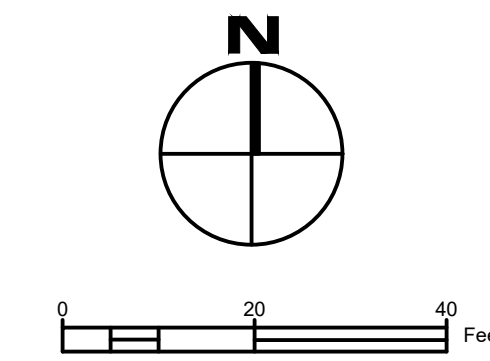
CLIENT
VIGO COUNTY PARKS AND RECREATION DEPARTMENT

RECORD OWNER
VIGO COUNTY PARKS AND RECREATION DEPARTMENT

PROJECT NUMBER: 24-168
DATE: 11/19/2024
DRAWN BY: ATF
CHECKED BY: EMM
APPROVED BY: EMM
SCALE:
FILE NAME: 24-168 Sheets

GENERAL NOTES AND LEGEND

C002



GRADING LEGEND

- - - - -500- - - - - = EXISTING CONTOURS
- 500————— = DESIGN CONTOURS
- 490.20——— = DESIGN SPOT ELEVATION
- = PROPOSED STORM SEWER
- - - - - = SWALE
- M.E. = MATCH EXISTING

NO.	DATE	REVISIONS	BY	CHECKED

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PROFESSIONAL ENGINEER

Evan Miller

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VIGO COUNTY PARKS AND RECREATION DEPARTMENT

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SCALE: 1" = 20'
FILE NAME: 24-168 Sheets

GRADING PLAN

C201

TEMPORARY CONSTRUCTION INGRESS/EGRESS PAD

- PURPOSE**
- To provide stable entrance/exit conditions from an individual lot or building site.
 - To keep mud and sediment off of public roadways.

SPECIFICATIONS

- Location:**
- Avoid locating on steep slopes or at curves in public roads.
- Dimensions:**
- Width – 12 feet minimum or full width of entrance/exit drive, whichever is greater.
 - Length – 50 feet minimum or full length of drive, whichever is greater.
 - Thickness – six inches minimum.

- Materials:**
- One to two and one-half inch diameter washed aggregate [INDOT CA No. 2
 - One-half to one and one-half inch washed aggregate [INDOT CA No. 53; optional, used primarily where the purpose of the pad is to keep soil from adhering to vehicle tires]
 - Geotextile fabric underlayment (used as a separation layer to prevent intermixing of aggregate and the underlying soil material and to provide greater bearing strength when encountering wet conditions or soils with a seasonal high water table limitation).

INSTALLATION

- Remove all vegetation and other objectionable material from the foundation area.
- Grade the foundation and crown for positive drainage.
- Install a culvert pipe under the pad if needed to maintain proper public road drainage.
- If wet conditions are anticipated, place geotextile fabric on the graded foundation to improve stability.
- Place aggregate (INDOT CA No. 2) to the dimensions and grade shown in the construction plans, leaving the surface smooth and sloped for drainage.
- Top-dress the drive with washed aggregate (INDOT CA No.53).
- Where possible, divert all storm water runoff and drainage from the temporary construction ingress/egress pad to a sediment trap or basin.

MAINTENANCE

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

SURFACE STABILIZATION - PERMANENT SEEDING

- PURPOSE**
- To provide permanent vegetative cover and improve visual aesthetics of a project site.
 - To reduce erosion and sedimentation damage by stabilizing disturbed areas.
 - To reduce problems associated with mud or dust from unvegetated soil surfaces.
 - To reduce sediment-laden stormwater runoff from being transported to downstream areas.

SPECIFICATIONS

- Seedbed Preparation:**
- Grade and apply soil amendments
- Seeding Frequency**
- Seed final graded areas daily while soil is still loose and moist
- Density of Vegetative Cover**
- Ninety percent (90%) or greater over the soil surface

- Materials:**
- Soil Amendments – Select materials and rates as determined by a soil test (contact your county soil and water conservation district or cooperative extension office for assistance and soil information, including available soil testing services.) or 400 to 600 pounds of 12-12-12 analysis fertilizer, or equivalent. Consider the use of reduced phosphorus application where soil tests indicate phosphorus levels in the soil profile.

- Seed – Select appropriate plant species seed or seed mixtures on the basis of soil type, soil pH, region of the state, time of year, and intended land use of the area to be seeded (see Table 1).

- Mulch –
 - Straw, hay, wood fiber, etc. (to protect seedbed, retain moisture, and encourage plant growth).
 - Anchored to prevent removal by wind or water or covered with manufactured erosion control blankets.

APPLICATION

- Site Preparation:**
- Grade the site to achieve positive drainage.
 - 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).

Seed Bed Preparation:

- Test soil to determine pH and nutrient levels.
- 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.
- 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 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.

- Select a seeding mixture and rate from Table 1. Select seed mixture based on site conditions, soil pH, intended land use and expected level of performance.
- Apply seed uniformly with a drill or cultipacker seeder or by broadcasting. Plant or cover 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.
- 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.
- Characteristics of a successful stand include vigorous dark green or bluish-green seedlings with a uniform vegetative cover density of 90 percent or more.
- Check for erosion or movement of mulch and repair immediately.
- Repair damaged, bare, gullied, or sparsely vegetated areas and then fertilize, reseed, and apply and anchor mulch.
- If plant cover is spars 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.
- 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 middle summer.

Table 1. Permanent Seeding Recommendations

This table provides several seed mixture options. Additional seed n available commercially. When selecting a mixture, consider intend and site conditions, including soil properties (e.g., soil pH and drain aspect, and the tolerance of each species to shade and drought.

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

Seed Mixtures	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

Channels and Areas of Concentrated Flow

Seed Mixtures	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 ²	20 lbs. 10 lbs. 3 lbs. 4 lbs. 10 lbs. 2 lbs.	5.5 to 7.5
3. Tall fescue ¹ - white clover ²	150 lbs. 2 lbs.	5.5 to 7.5
4. Tall fescue ² - perennial ryegrass - Kentucky bluegrass	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 for, 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:

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

TEMPORARY SEEDING

- PURPOSE**
- To provide vegetative cover where permanent seeding is not desirable or practical.
 - To reduce erosion and sedimentation damage by stabilizing disturbed areas.
 - To reduce problems associated with mud or dust from unvegetated soil surfaces during construction.
 - To reduce sediment-laden storm water runoff from being transported to downstream areas.
 - To improve visual aesthetics of construction areas.

SPECIFICATIONS

- Materials:**
- Soil Amendments – Select materials and rates as determined by a soil test (contact your county soil and water conservation district or cooperative extension office for assistance and soil information, including available soil testing services) or 400 to 600 pounds of 12-12-12 analysis fertilizer, or equivalent. Consider the use of reduced phosphorus application where soil tests indicate adequate phosphorus levels in the soil profile.
 - Seed – Select appropriate plant species seed or seed mixtures on the basis of quick germination, growth, and time of year to be seeded (see Table 1).
 - Mulch –
 - Straw, hay, wood fiber, etc. (to protect seedbed, retain moisture, and encourage plant growth).
 - Anchored to prevent removal by wind or water or covered with manufactured erosion control blankets.

Table 1. Temporary Seeding Specifications

Seed Species ¹	Rate per Acre	Planting Depth	Optimum Dates ²
Wheat or Rye	150 lbs.	1 to 1½ inches	Sept. 15 – Oct. 30
Spring Oats	100 lbs.	1 inch	March 1 – April 15
Annual Ryegrass	40 lbs.	¼ 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** on page 35).

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.

Notes:

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.

APPLICATION

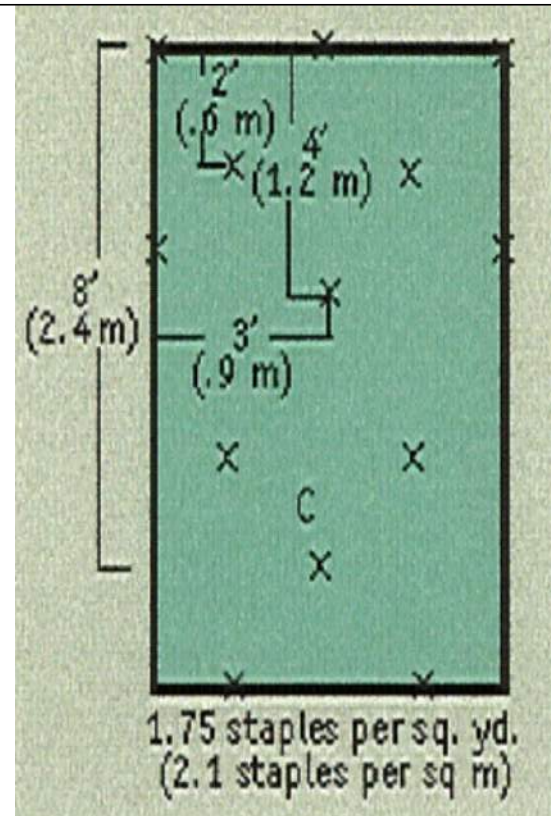
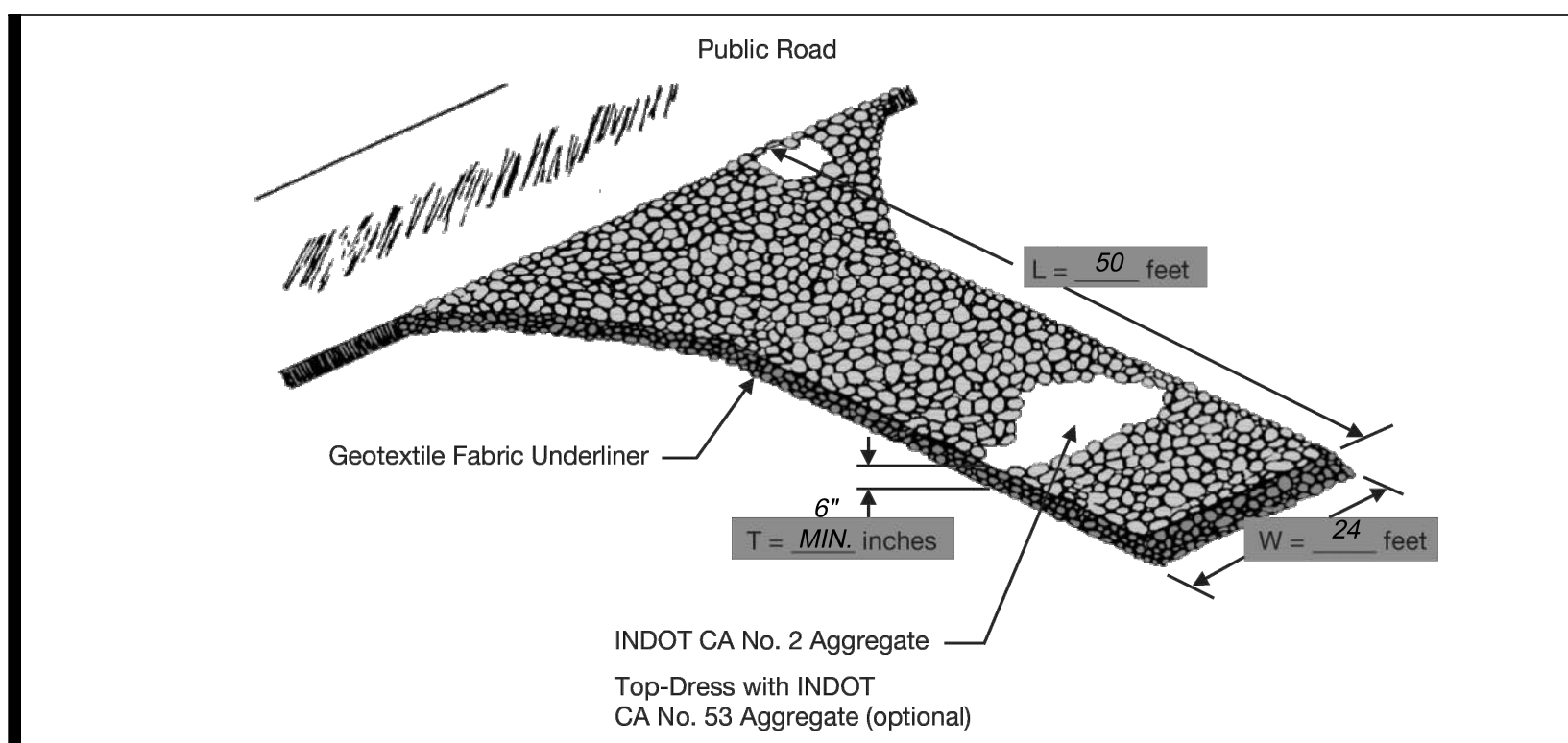
- Seed Bed Preparation:**
- Test soil to determine pH and nutrient levels.
 - Apply soil amendments as recommended by the soil test. If testing is not done, apply 400 to 600 pounds per acre of 12-12-12 analysis fertilizer, or equivalent.
 - Work the soil amendments into the upper two to four inches of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

Seeding:

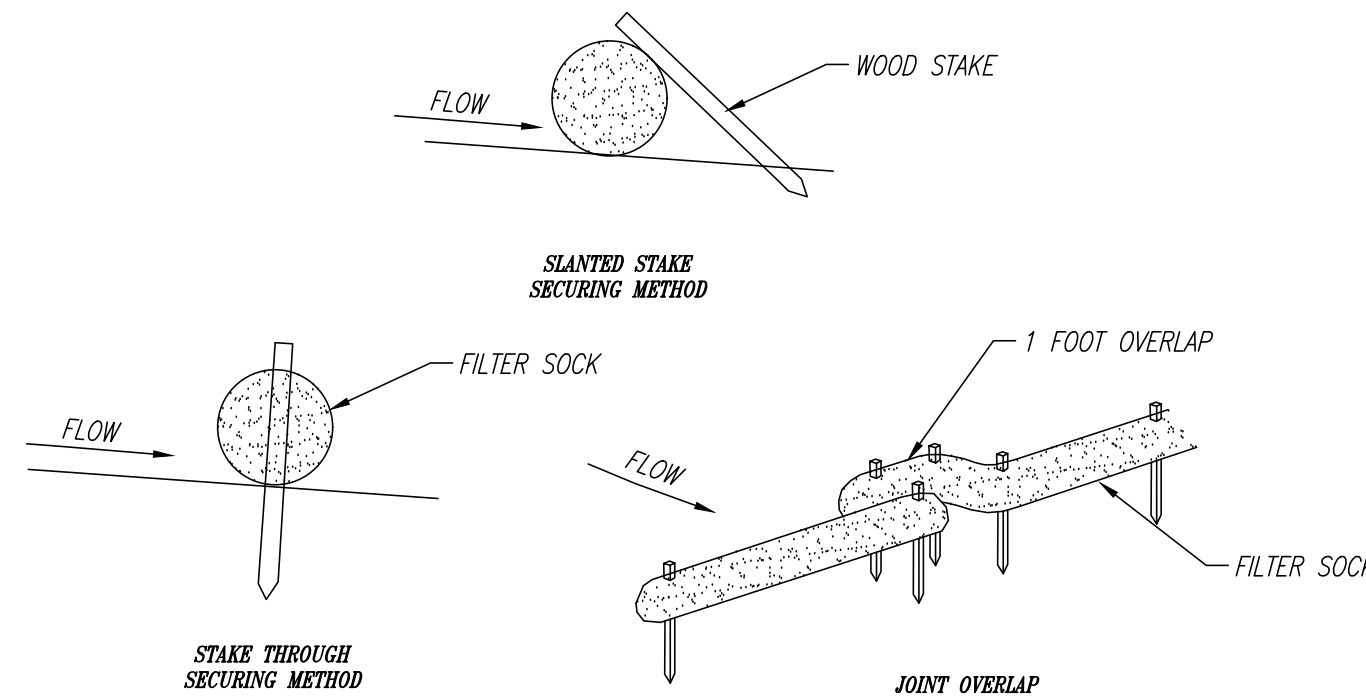
- Select a seed species or an appropriate seed mixture and application rate from Table 1.
 - Apply seed uniformly with a drill or cultipacker seeder or by broadcasting. Plant or cover seed to the depth shown in Table 1.
- Select a seed species or an appropriate seed mixture and application rate from Table 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.
 - If seeding is done with a hydroseeder, fertilizer and mulch can be applied with the seed in a slurry mixture.
- Apply mulch (see **Mulching** on page 55 or **Compost Mulching** on page 59) and anchor it in place.

MAINTENANCE

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

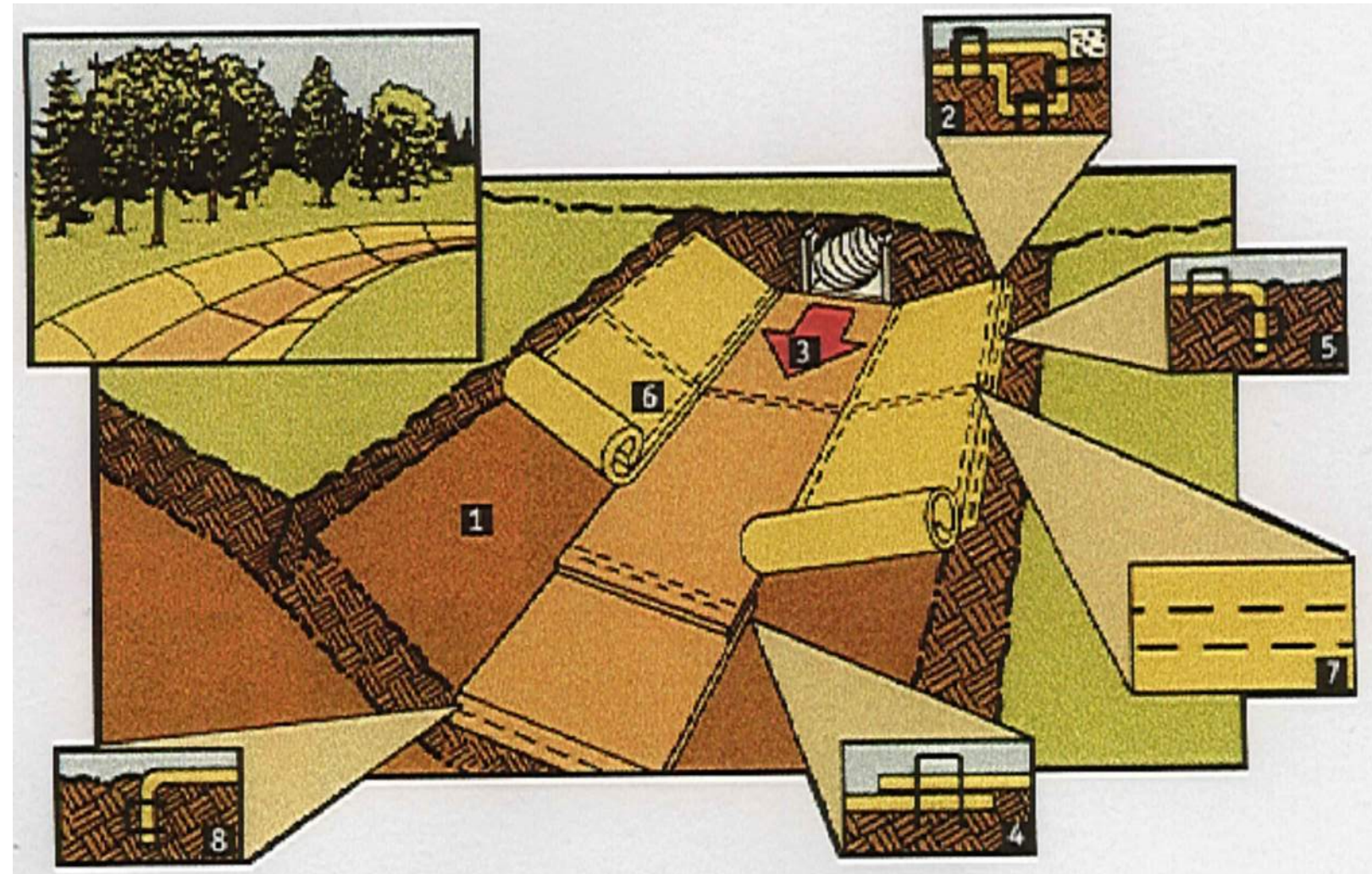
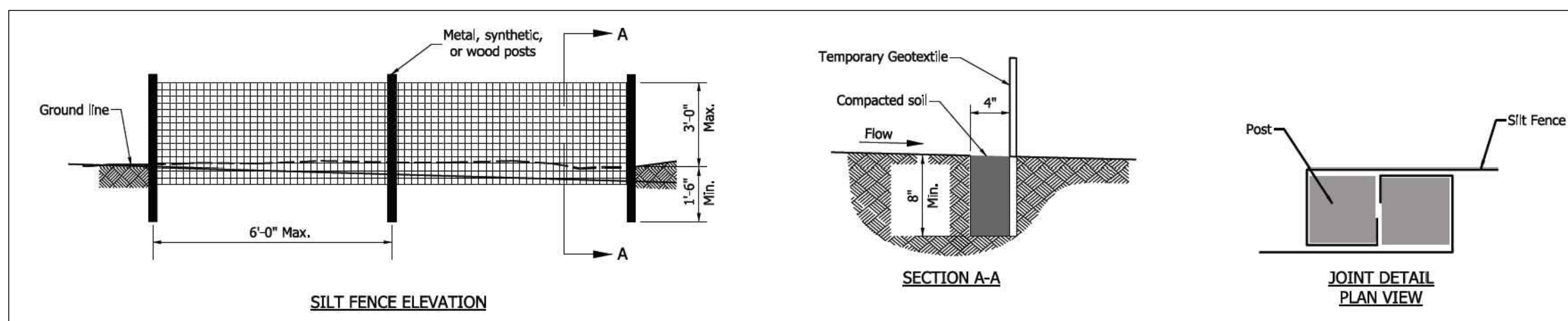


- EROSION CONTROL BLANKET**
- Prepare soil before installing blankets, including application of lime, fertilizer, and seed.
 - Begin at the top of channel by anchoring the blanket in a 6" deep by 6" wide trench. Backfill and compact the trench after stapling.
 - Roll center blanket in direction of water flow on bottom of channel.
 - Place blankets end over end (single style) with a 6" overlap. Use a double row of staggered staples 4" apart to secure blankets.
 - Full-length edge of blankets at top of side slopes must be anchored in 6" by 6" wide trench. Backfill and compact the trench after stapling.
 - Blankets on side slopes must be overlapped 4" over the center blanket and staples.
 - In high flow channel applications, a Staple check slot is recommended at 30 to 40 foot intervals. Use a row of staples 4" apart over entire width of the channel. Place a second row 4" below the first row in a staggered pattern.
 - The terminal end of the blankets must be anchored in a 6" deep by 6" wide trench. Backfill and compact the trench after stapling.



PERIMETER PROTECTION / FILTER SOCK

NOT TO SCALE



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VIGO COUNTY PARKS AND RECREATION DEPARTMENT

John Miller

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DATE:	11/19/2024
DRAWN BY:	ATF
CHECKED BY:	EMM
APPROVED BY:	EMM
SCALE:	
FILE NAME:	24-168 Sheets

EROSION CONTROL DETAILS

C402

General Site Notes

It shall be the responsibility of the general contractor to bear any and all expenses to remove, relocate and/or modify all utilities private, public or otherwise. It further shall be the responsibility of the general contractor to verify with each utility owner who is responsible to remove, relocate and/or modify such utilities existing or proposed per these plans or future utilities proposed by others not indicated herein.

The contractor shall be responsible to provide at his expense all automobile and pedestrian control devices required by federal, state, county, city, or local agency. The amount, location and size shall be per direction of such agency.

It is the responsibility of the contractor to remove all mud, dirt, gravel and any other materials tracked onto or placed onto any public or private streets, drives or sidewalks. The contractor shall clean these areas daily. The contractor shall use water or other methods to abate airborne dust.

The utilities indicated on these plans may not be a complete inventory of all of the existing utilities present. The location and size of these utilities are approximate based on information gathered or supplied to the engineer. The engineer shall not be liable for any incorrect or misleading utility information indicated or not indicated on these plans. Contractor shall verify all existing utility locations prior to starting construction.

Provide smooth transitions from new areas to existing features as necessary for this project.

All areas where existing pavement or pavements are damaged during construction from heavy traffic or equipment, fuel, oil, gasoline, etc. by the general contractor, subcontractor or supplier shall be reconstructed and paved at a minimum to its original condition after the construction work is completed, at contractor's expense.

All concrete sidewalks are not to exceed a max. Longitudinal slope of 3/4" per foot. Control joints at 5'-0" to 10'-0" on center max. And expansion joints, 40'-0" on center, unless otherwise noted or indicated on the plans. Use consistent spacing.

The general contractor shall verify all dimensions in the field before starting construction. The general contractor shall be responsible for all field dimensions. If any discrepancies are found in these plans from actual field conditions, the general contractor shall contact the engineer immediately.

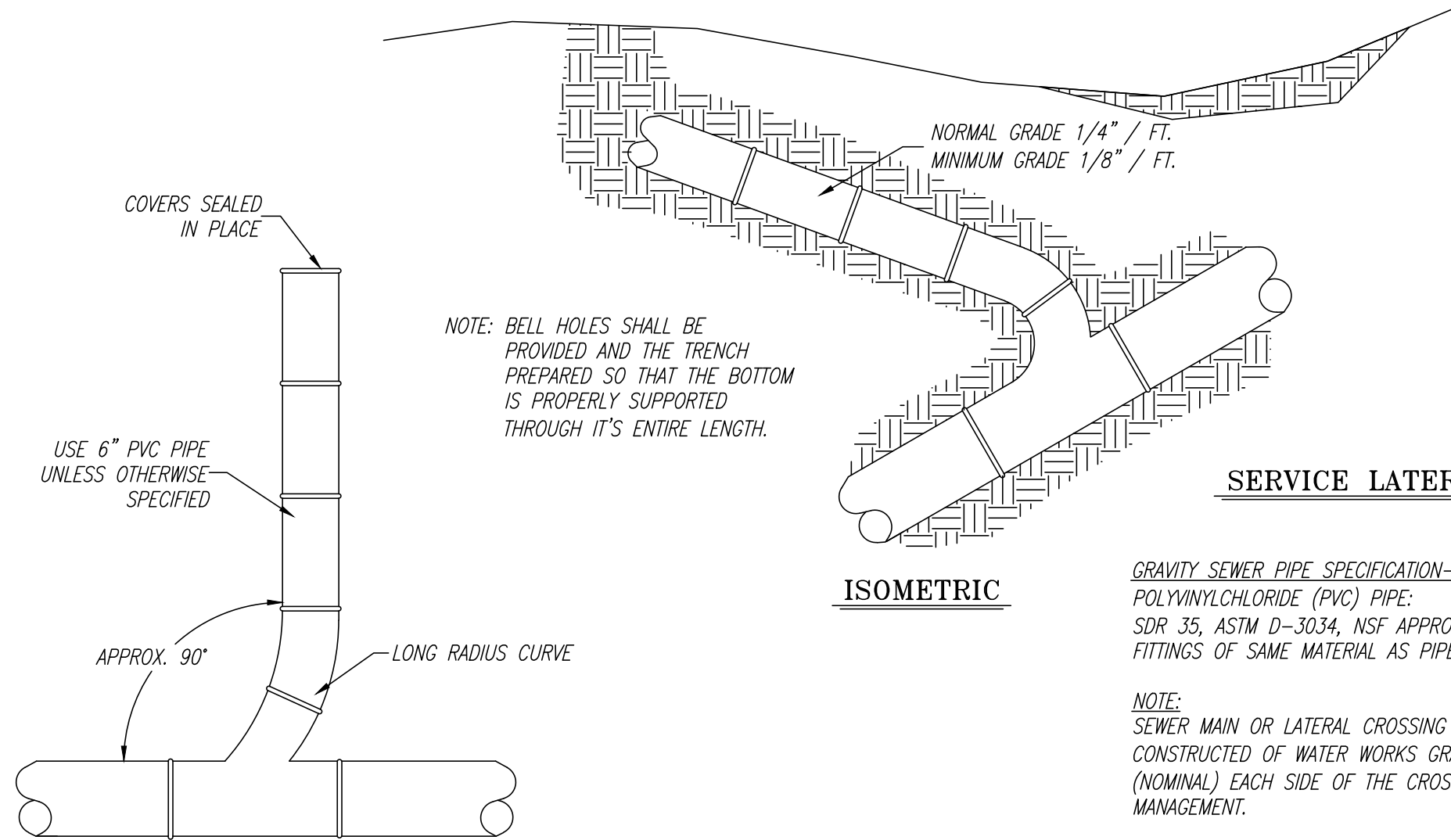
The excavating contractor must take particular care when excavating in and around existing utility lines and equipment. Verify min. cover requirements by utility contractors and/or utility companies to avoid any damage to the existing utilities.

It is the general contractor's responsibility to notify all utility companies 72 hours prior the start of construction and to verify if any utilities are present on site. All verification (location, size, and depth) shall be made by the appropriate utility companies. When excavation is around or over existing utilities, the contractor must notify the utility company so a representative of the utility company can be present to instruct and observe during the excavation.

Care should be exercised during construction. The traffic of all equipment may create pumping and general deterioration of the shallower soils if excess surface water is present. Proper precautionary steps must be taken to alleviate such damage.

All construction and materials shall conform to current standards and specifications of INDOT.

Any road, road shoulders, road pavement, parking pavement, curbs, driveways, sidewalks, ditches, drainage pipes and structures, fences, lawns, trees, shrubs and bushes, mailboxes, street and public signs, advertisement signs, etc., damaged during construction shall be restored, reconstructed, or replaced at the expense of the general contractor.



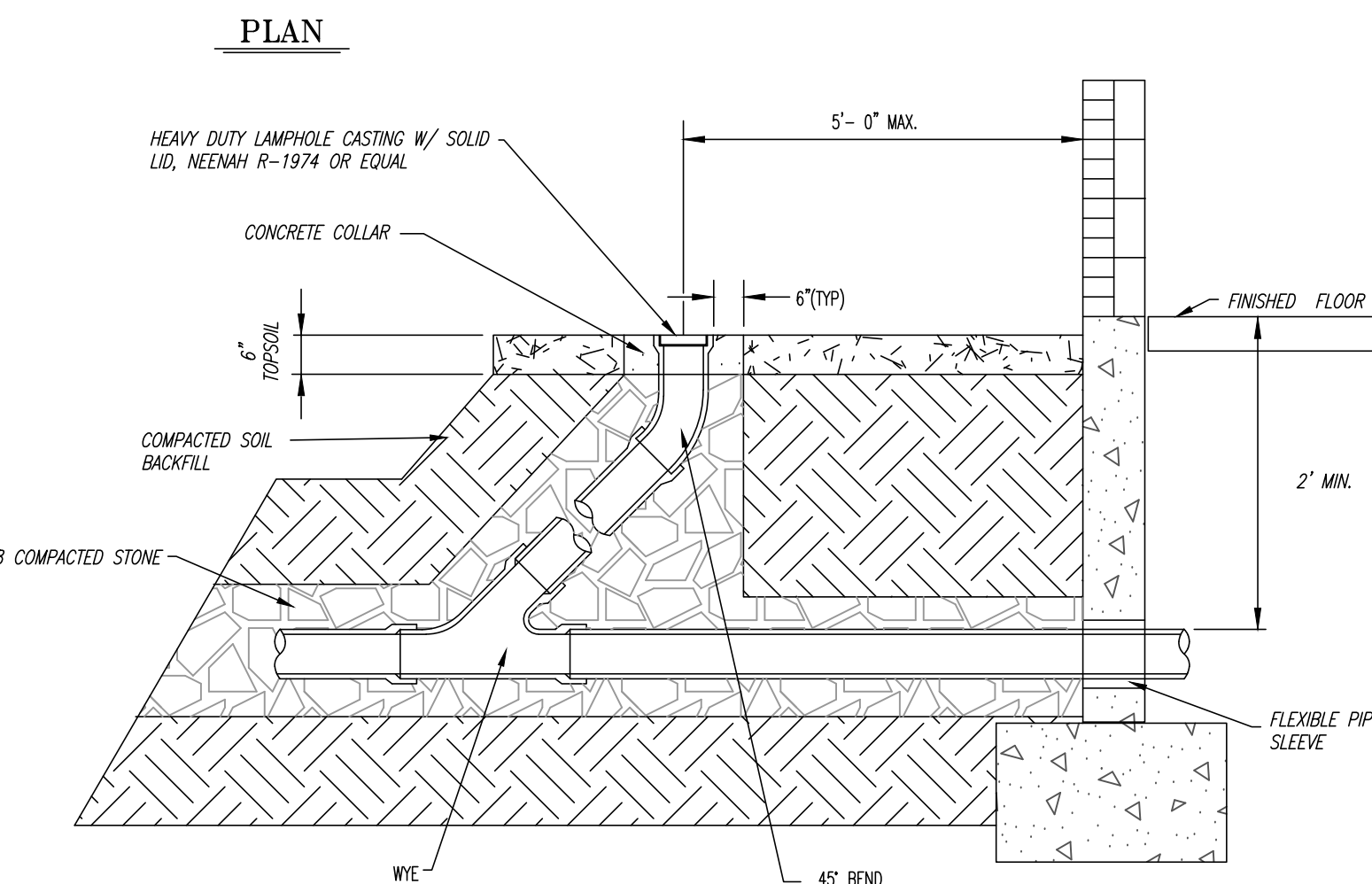
SERVICE LATERAL CONNECTION TO MAIN SEWERS

NOT TO SCALE

GRAVITY SEWER PIPE SPECIFICATION—STANDARD

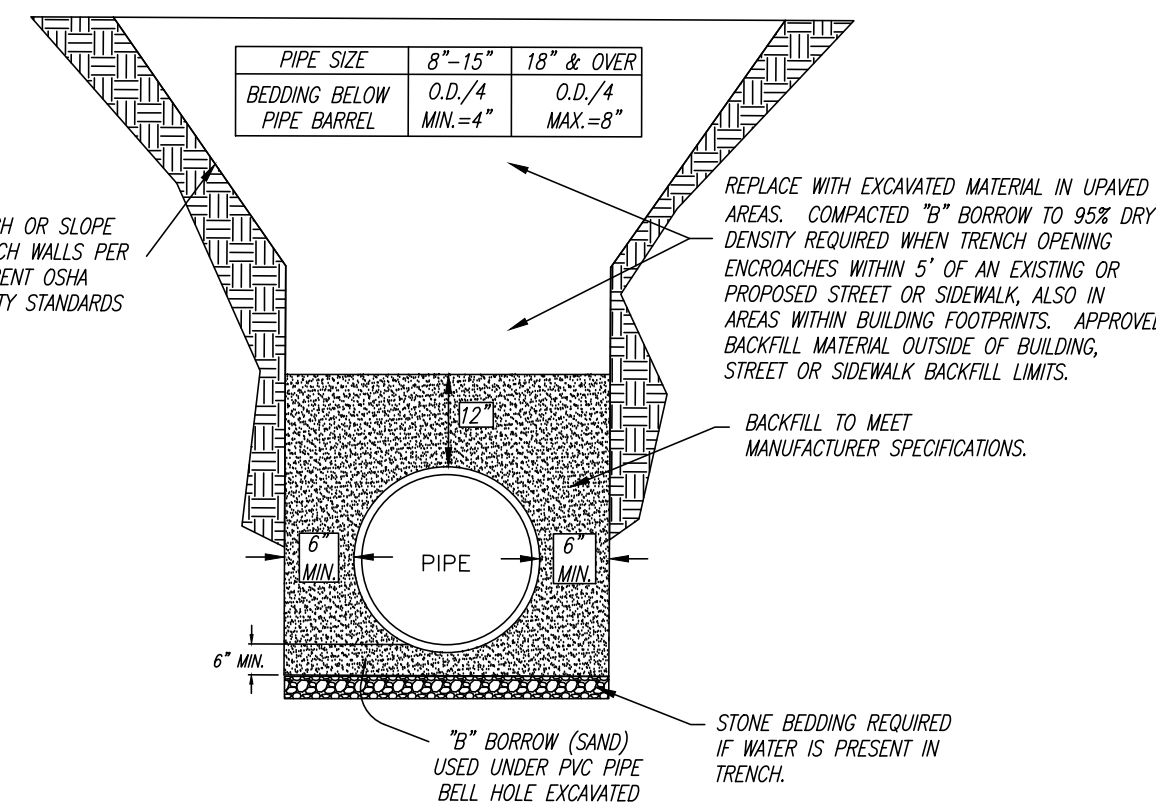
POLYVINYLCHLORIDE (PVC) PIPE: SDR 35, ASTM D-3034, NSF APPROVED W/SLIP TYPE GASKET JOINT (CLEARLY MARKED FOR PROPER SEATING), FITTINGS OF SAME MATERIAL AS PIPE AND CONFORMING TO ASTM D-3033 DIMENSIONAL SPECIFICATIONS.

NOTE: SEWER MAIN OR LATERAL CROSSING OVER, OR WITHIN 18-INCHES UNDER, WATER MAIN PIPE SHALL BE CONSTRUCTED OF WATER WORKS GRADE PVC PIPE, ASTM D-2241, SDR 21 (MINIMUM) TO TEN (10) FEET (NOMINAL) EACH SIDE OF THE CROSSING POINT, AS APPROVED BY INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.



CLEANOUT DETAIL

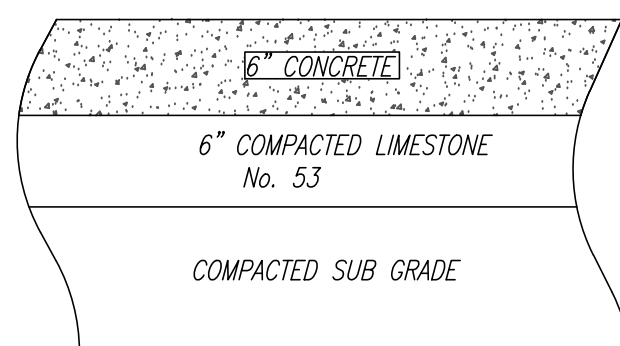
NOT TO SCALE



PIPE TRENCH SECTION

(NO SCALE)

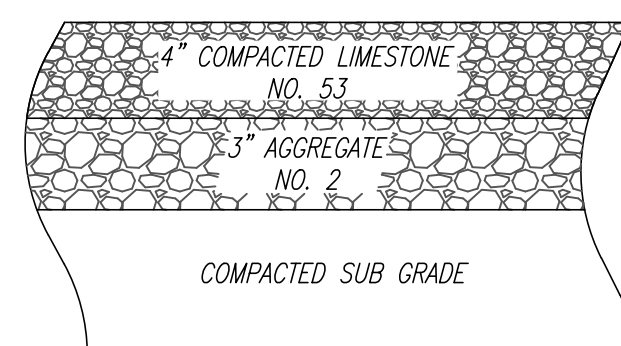
NOTE: GRANULAR BACKFILL MUST BE COMPACTED TO 95% DRY DENSITY



- NOTES:
- 1) COMPACT SUBGRADE TO MINIMUM 98% OF OPTIMUM DRY DENSITY PER ASTM D-698 (STANDARD PROCTOR).
 - 2) PLACE AND COMPACT AGGREGATE BASE IN TWO(2) LIFTS, EACH COMPACTED TO 100% OPTIMUM DRY DENSITY PER ASTM D-698, P-209
 - 3) STANDARD CONCRETE PAVEMENT PER P-501.
 - 4) REINFORCEMENT SHEET WIRE FABRIC, WWF 6x6 W4xW4

CONCRETE PAVEMENT SECTION

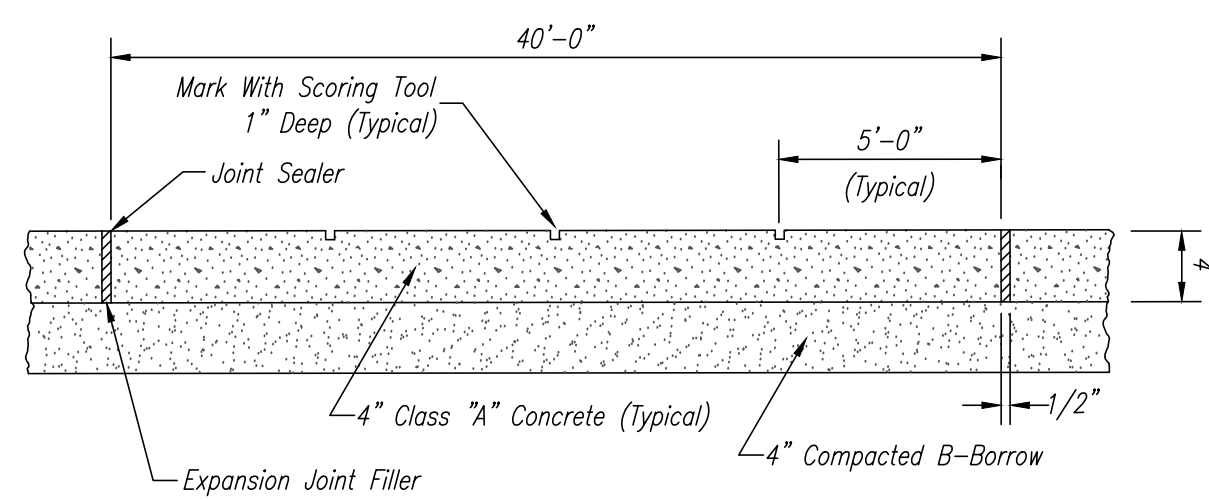
NOT TO SCALE



- NOTES:
- 1) COMPACT SUBGRADE TO MINIMUM 98% OF OPTIMUM DRY DENSITY PER ASTM D-698 (STANDARD PROCTOR).
 - 2) PLACE AND COMPACT AGGREGATE BASE IN TWO(2) LIFTS, EACH COMPACTED TO 100% OPTIMUM DRY DENSITY PER ASTM D-698, P-209
 - 3) STANDARD CONCRETE PAVEMENT PER P-501.
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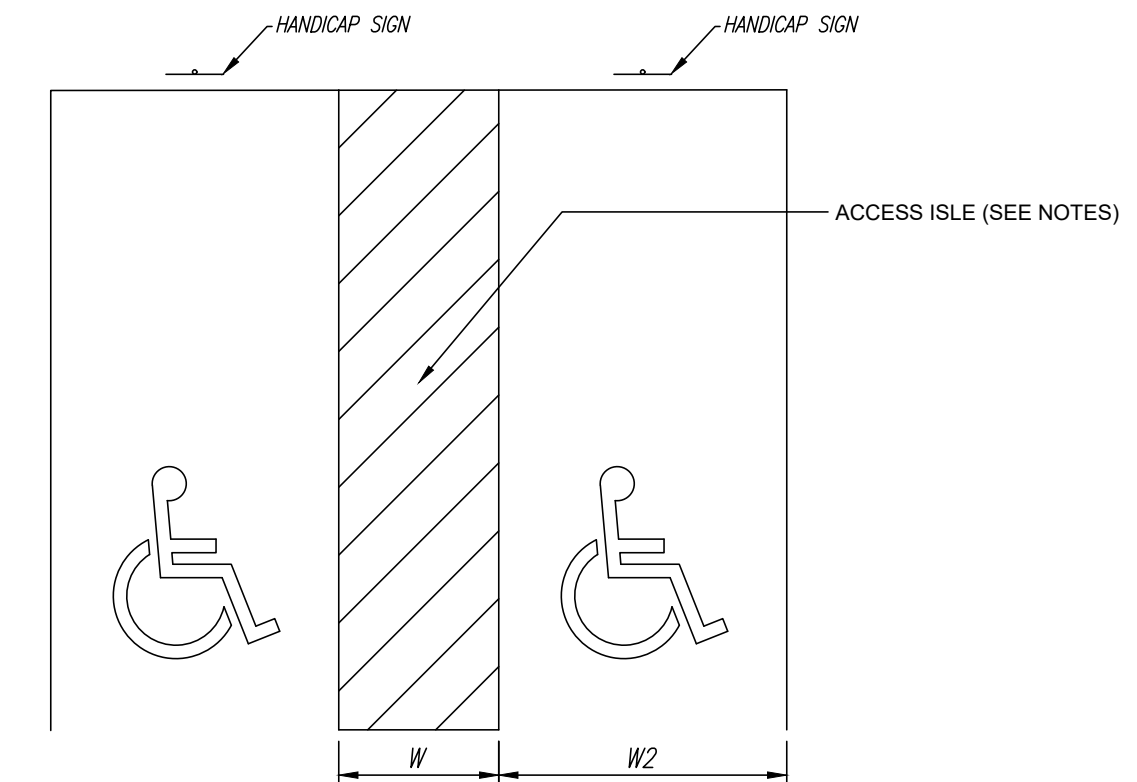
GRAVEL DRIVE SECTION

NOT TO SCALE



CONCRETE SIDEWALK DETAIL

NOT TO SCALE

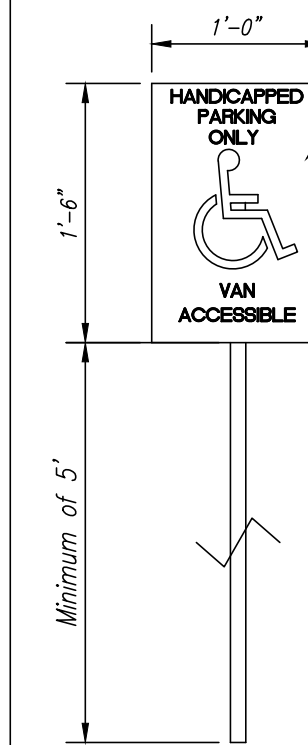


NOTES:

1. ONE IN EVERY EIGHT ACCESSIBLE SPACES, BUT NOT LESS THAN ONE, SHALL BE SERVED BY AN ACCESS AISLE 96" WIDE (W) MIN. AND SHALL BE DESIGNATED "VAN ACCESSIBLE".
2. EXCEPT AS PROVIDED IN NOTE 1, ACCESS AISLES ADJACENT TO ACCESSIBLE SPACES SHALL BE 60" WIDE (W) MIN.
3. ACCESSIBLE PARKING SPACES SHALL BE AT LEAST 96" WIDE (W2). TWO ACCESSIBLE PARKING SPACES MAY SHARE A COMMON ACCESS AISLE. PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 1:50 (2%) IN ALL DIRECTIONS.
4. ACCESSIBLE PARKING SPACES SHALL BE DESIGNATED AS RESERVED BY A SIGN SHOWING THE SYMBOL OF ACCESSIBILITY (SEE ADA PARKING SIGNAGE DETAIL).

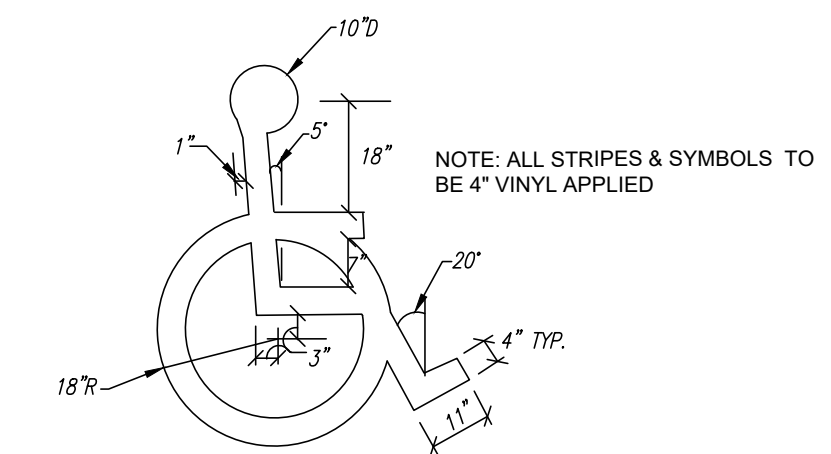
ADA PARKING DETAIL

NOT TO SCALE



ADA PARKING SIGNAGE DETAIL

NOT TO SCALE



ADA PARKING PAVEMENT MARKING DETAIL

NOT TO SCALE

NO.	DATE	REVISIONS	BY	CHECKED

Section 1, Township 10 North, Range 9 West of the Second Principal Meridian, Linton Township, City of Terre Haute, Vigo County, Indiana

GRIFFIN BIKE PARK CLUBHOUSE
10700 BONO ROAD
TERRE HAUTE, INDIANA 47802

ALIGN

1216 S. 3rd St.
Terre Haute, IN 46135
765-653-6710

1285 S. Jackson Street, Suite B
Greensville, IN 46135
765-653-6710

REGISTERED PROFESSIONAL ENGINEER
NO. 11800302
STATE OF INDIANA

CLIENT: VIGO COUNTY PARKS AND RECREATION DEPARTMENT
RECORD OWNER: VIGO COUNTY PARKS AND RECREATION DEPARTMENT

PROJECT NUMBER: 24-168
DATE: 11/19/2024
DRAWN BY: ATF
CHECKED BY: EMM
APPROVED BY: EMM
SCALE: _____
FILE NAME: 24-168 Sheets

CONSTRUCTION DETAILS

C901

Section 1 - Earthwork

1. Scope of work

A) Extent: The work required under this section consists of all excavating, filling, rough grading and related items necessary to complete the work indicated on the drawings and described in the specifications. The contractor shall notify in writing the owner and the engineer of any changes, errors or omissions found on the plans or in the field before work is started or resumed.

- In general, the items of work to be performed under this section shall include clearing and grubbing, removal of trees and stumps, stripping and storage of topsoil, fill compaction and rough grading of entire site.
- Excavated material that is suitable may be used for fills. All unsuitable material and all surplus excavated material not required shall be removed from the site. The location of dump and length of haul shall be the contractor's responsibility.
- Provide and place any additional fill material from off the site as may be necessary to produce the grades required. Fill obtained from offsite shall be of kind and quality as specified for fills herein and the source approved by the owner.
- The contractor shall accept the site as he finds it and shall remove all trash, rubbish and debris from the site prior to starting excavation.

2. Bench marks

A) Maintain carefully all bench marks, monuments and other reference points, if disturbed or destroyed, contractor shall contact engineer & replace at contractors expense.

3. Topographical features

A) The integrity of the topographic features (including trees) shall be persevered as much as possible. The contractor shall coordinate with owner and/or engineer prior to clearing the site for construction.
B) All brush, stumps, wood and other refuse from the trees removed shall be hauled to disposal areas off of the site. Disposal by burning shall not be permitted unless proper permits are obtained (where applicable).

4. Handling of topsoil

A) Remove all organic material from the areas to be occupied by buildings, roads, walks and parking areas. Pile and store topsoil at a location where it will not interfere with construction operations. Any remaining topsoil shall be reasonably free from subsoil, debris, weeds, grass, stones, etc.
B) After completion of site grading and subsurface utility installation, topsoil shall be replaced in areas designated on the erosion control plan for seeding and/or sodding. Any remaining topsoil shall be used for finished grading around structures and landscaping areas.

5. Disposition of utilities

A) Rules and regulations governing the respective utilities shall be observed in executing all work under this section.
B) If active utilities are encountered but not shown on the drawings, the engineer shall be advised before work is continued.
C) Inactive and abandoned utilities encountered in excavating and grading operations shall be reported to the engineer. They shall be removed, plugged or capped as directed by the utility company or the engineer.
D) It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to their phase of the work. It shall also be the contractor's responsibility to contact the owners of the various utilities before work is started.

6. Site grading

A) Grades: contractor shall perform all cutting, filing, compacting of fills and rough grading required to bring entire project area to grade as shown on the drawings.
B) Rough grading: the tolerance for paved areas shall not exceed 0.04 feet plus or minus above the established subgrade. All other areas shall not exceed 0.10 feet plus or minus the established grade. All banks and other breaks in grade shall be rounded at the top and bottom.
C) Compaction requirements.

- All building pad areas shall be compacted to standards specified in the geotechnical report completed by a qualified geotechnical firm.
- Compaction requirements of paved areas shall also be per standards specified in the geotechnical report by a qualified geotechnical firm.

7. Earth work balance

A) Align Civil Engineering Consultants makes no warranty of any kind, expressed or implied, with respect to the balance of earthwork quantities within the construction limits of this project. An attempt was made to reasonably balance the earthwork quantities based upon the available survey data, and the site graphic plan data. The size and depth of trench excavations for sewer, curb, utilities, or otherwise, was not included in these calculations, nor was allowance made for shrinkage or for unsuitable material. If an excess or shortage of earth is encountered, the contractor shall confirm with the owner and engineer the requirements for stockpiling, removal or importing of earth.

Section 2 - Streets/Parking Lot

1. Scope of work

A) The work required under this section includes all concrete and bituminous paving and related items necessary to complete the work indicated on the drawings and described in the specifications, including but not limited to:

- All streets, parking areas within the contract limits.
- Curbs and concrete ramps
- Sidewalks and concrete slabs.

B) In the case of any conflicts with these specifications and local, state, and federal specifications the more stringent shall apply.

2. Pavement construction

A) All street construction shall be in accordance with the plans and specifications. If there are areas undefined the current INDOT Standard specifications, latest revision shall govern.
B) Flexible pavement

- Materials
 - General: use locally available materials and gradations which exhibit a satisfactory record of previous installations.
 - Compacted aggregate base: sound, angular crushed limestone, crushed or uncrushed gravel, or crushed or processed air cooled blast furnace slag. Coarse aggregate shall be class a. Type "0" and conform to INDOT Standard specifications section 903.
 - Base course aggregate. Sound, angular crushed stone, crushed or uncrushed gravel, or crushed slag, sand, stone, or slag screenings. Coarse aggregates shall be class A or B and conform to INDOT Standard specifications section 903.
 - Coarse aggregate for surface and binder mixtures: crushed stone, crushed gravel, crushed slab, and sharp edged natural sand. Surface coarse aggregates shall be class A and conform to INDOT Standard specifications section 903.
 - Asphalt cement: petroleum asphalt cement, ap 5 with penetration of 60-70 or viscosity graded asphalt cement ac_20 conforming to INDOT Standard specifications section 903.
 - Prime coat: medium cure liquid asphalt or asphalt emulsion conforming to INDOT Standard specifications section 406.
 - Tack coat: rapid cure liquid asphalt or asphalt emulsion conforming to INDOT Standard specifications section 409.
 - Lane marking paint: chlorinated rubber alkyd type, AASHTO m248 (fs tt-p-115), type iii.

3. Asphalt aggregate mixture

A) All bituminous mixtures are to conform to current INDOT Specifications

- Surface course: hma surface 9.5mm
- Binder course. hma intermediate 19.0mm
- Base course: type: hma base 25.0mm

**provided a job mix formula for each type of asphalt prior to the beginning of the construction project

4. Surface preparation

A) Remove loose material from compacted sub-base surface immediately before applying prime coat

- Proof roll sub-grade surface with fully loaded tri-axle truck to check for unstable areas and areas requiring additional compaction.
- Notify contractor of unsatisfactory conditions. Do not begin paving work until deficient sub-base areas have been corrected and are ready to receive paving.

B) Aggregate base: after placement proof, roll compacted aggregate base surface to check for unstable areas and areas requiring additional compaction.

- Notify contractor of unsatisfactory conditions. Do not begin paving work until deficient aggregate base areas have been corrected and are ready to receive paving.
- Remove loose material from compacted aggregate base surface immediately before applying prime coat

5. Placing the mix

A) Per current INDOT Standards.

6. Rolling

A) Per current INDOT Standards

7. Concrete mix

A) All concrete shall be class a concrete and in accordance with section 702 of the latest INDOT standards and specifications manual. All concrete shall contain an air entrained admixture at the dosages specified by the latest INDOT standards and specifications. All concrete shall have a minimum compressive strength of 4000 psi unless otherwise specified on plans, and shall be cured and sealed per these specifications and per owner.

8. Traffic and lane markings

A) Cleaning: sweep and clean surface to eliminate loose material and dust.
B) Striping: use chlorinated rubber base traffic lane-marking paint, factory mixed, quick-drying, and non-bleeding.

- Color: yellow/white/blue
 - Do not apply traffic and lane marking paint until layout and placement has been verified with architect/engineer.
 - Apply paint with mechanical equipment to produce uniform straight edges. Apply in two coats at manufacturer's recommended rates.

9. Field quality control

A) Testing and inspection service:

- Owner shall employ a testing laboratory to perform pavement testing and inspection service for quality control during paving operations.
- Testing service shall have representative present to observe and perform tests at all times paving work is in progress.
- General: testing service representative shall take a minimum of two samples per lift of bituminous aggregate mix each day before paving operation. Laboratory test shall be performed on these samples to determine aggregate gradation and asphalt content.
 - Test in-place compacted bituminous aggregate mix courses for compliance with requirements for thickness, density and air voids and surface smoothness. Repair or remove and replace unacceptable paving as directed by engineer.

C) Thickness: in-place compacted thickness will not be acceptable if exceeding the following allowable variation.

- From required thickness:
 - Aggregate base course: 1/2", plus or minus
 - Base course: 1/2", plus or minus
 - Binder course: 1/4" plus or minus
 - Surface course: 1/4", plus or minus

D) Density tests: density tests shall be made at each lift. Test shall be as follows:

- Test will be required at various times and locations for sub-grade and base courses for asphalt paving areas.

E) Air voids:

- Testing service shall submit certified results to the owner and architect/engineer within 72 hours after tests are made, with their comments and recommendations for action.
- Pavement which fails to comply with approved job mix formula shall be replaced as directed by the architect/engineer

F) Surface smoothness: test finished surface for smoothness, using 10' straightedge applied parallel with, and at right angles to centerline of paved area. Surface will not be acceptable if exceeding the following tolerances for smoothness:

- Aggregate base course surface: 1/4"
- Binder course surface: 1/8"
- Wearing course surface: 1/8"
- Check surfaced areas at intervals as directed by testing service.

G) Testing service shall submit certified results to the owner and engineer within 72 hours after test are made with their comments and recommendations for action.

- Subgrade shall be prepared in accordance with INDOT standard specifications, section 207. No traffic shall be permitted on the prepared subgrade prior to paving.
- See site grading, under "earthwork" section for additional compaction requirements.

10. Application

A) Grading: do any necessary grading in addition to that performed in accordance with earthwork section to bring subgrades after final compaction, to the required grades and sections for site improvements.
B) Preparation of subgrade: remove spongy and otherwise unsuitable material and replace with stable material. No traffic will be allowed on prepared subgrade prior to paving.
C) Compaction of subgrade: the first 6 inches below the subgrade shall be compacted to at least 100% of the maximum dry density as determined by the provisions of AASHTO 99. Water shall be prevented from standing on the compacted subgrade.
D) Utility structures: check for correct elevation of all manhole covers, valve boxes and similar structures located within areas to be paved and make, or have made, any necessary adjustments in such structures.
E) Placing concrete:

- Subgrade: place concrete only on a moist, compacted subgrade or base free from loose material. Place no concrete on a muddy or frozen subgrade.
- Forms: all forms shall be free from warp, tight enough to prevent leakage and substantial enough to maintain their shape and position without springing or settling, when concrete is placed. Forms shall be clean and smooth immediately before concreting.
- Placing concrete. Concrete shall be deposited so as to require as little rehandling as practicable, when concrete is to be placed at an atmospheric temperature of 35 degrees F or less, paragraph 702.10 of the INDOT Specifications latest revisions shall be followed.

F) Concrete curb:

- Expansion joints shall be 1/2 inch thick premolded at ends of all returns and at a maximum spacing of 100 feet.
- Contraction joints unless otherwise provided, contraction joints shall be sawed joints spaced 25 feet on center.
- Finish tamp and screed concrete as soon as placed, and fill any honey combed places. Finish square cornerstone 1/4 inch radius and other corners to radii shown.

G) Concrete walks and exterior steps

- Slopes: provide 1/4 inch per foot cross slope unless otherwise noted on plans. Make adjustments on slopes at walk intersections as necessary to provide proper drainage.
 - Dimensions: walks and steps shall be one course construction and of widths and details shown on the drawings.
- Finish: screed concrete and trowel with a steel trowel to a hard dense surface after surface water

has disappeared. Apply medium broom finish and scribe transverse joints at 5 foot spacing. Provide 1/2 inch expansion joints where sidewalks intersect and at a maximum spacing of 40 feet between expansion joints.

H) Curing concrete for walks and curbs: except as otherwise specified, cure all concrete by one of the methods described in section 501.17 of the INDOT Specifications, latest revision.
I) Bituminous pavement: hot mix asphalt pavement shall be as specified in section 402 of the i.n.d.o.t. Specifications latest revisions, paving will not be permitted during unfavorable weather or when the temperature is 40 degrees f and falling.
J) Compacted aggregate sub-base. The thickness shown on the drawings is the minimum thickness of the full compacted sub-base. Along curbs, headers and walls and at all places not accessible to the roller, the aggregate material shall be tamped with mechanical tampers or with approved hand tampers.
K) Concrete ramps

- Concrete ramps for the disabled shall be required as specified in the plans and shall conform to current specifications established by the American disabilities act (ADA), section 4.7, "Curb Ramps".
- The concrete ramp shall be flush and free of abrupt changes with sidewalks, gutters or streets, and provide a maximum slope of 1:12.
- The minimum width of a concrete ramp shall be (48) inches exclusive of flared sides.

Section 3 - Storm Sewer Systems

1. Scope of work

A) The work under this section includes all storm sewers, storm water inlets, manholes, and related items, including excavating and backfilling necessary to complete the work shown on the drawings.
B) In the case of any conflicts with these specifications and local, state, federal specifications the more stringent shall apply.

2. Storm sewer construction

A) Storm sewers:

- Storm sewer structures shall comply with current specifications of INDOT In respect to design and quality of construction.
- All storm sewer construction inside public right-of-way either existing or to be dedicated, shall be in accordance with the most current INDOT standard specifications.
- Where reinforced concrete pipe is shown on the construction plans, it shall be in accordance with ASTM C_76 class iii wall "C" unless otherwise specified on the plans.
- Where corrugated metal pipe is shown on the construction plans, it shall be 14 gauge aluminumized unless otherwise specified and shall have the connecting bands and seals as specified by the manufacturer. CMP shall be aluminumized pipe in accordance with ASTM A_444.
- Where HDPE pipe is shown on the construction plans, it shall be Hancor hi-q or equivalent.
- Manholes, catch basins, dry wells and inlets shall be precast concrete. Use of brick or block will not be permitted.
 - If the contractor elects to use alternate precast structures, he shall submit shop drawings to the engineer prior to any construction.
- Precast concrete and steel for manholes and inlets shall be in accordance with ASTM C_478.
- Castings shall be as shown on the structure data table for manufacturer, type and model number.
- B-borrow backfill shall be required under all pavement areas, sidewalks, driveways and trenches within five (5) feet of the edge of pavement
- All trenches under pavement shall be compacted to 95 percent modified proctor.

3. Application

A) Permits and codes: the intent of this section of the specifications is that the contractor's bid on the work covered herein shall be based upon the drawings, specifications and that the work shall comply with all applicable codes and regulations as amended by any waivers. The contractor shall furnish all bonds necessary to get permits for cuts and connections to existing sewers.
B) Local standards: the term "local standards" as used herein means the standards of design and construction of the owner, respective municipal department or utility company.
C) Existing improvements: the contractor shall maintain in operating condition all active utilities, sewers and other drains encountered in the sewer installation. The contractor shall repair to the satisfaction of the owner any damage to existing active improvements.
D) Workmanship: this work shall conform to all local, state and national codes and to be approved by all local and state agencies having jurisdiction.
E) Trenching: lay all pipe in open trenches, except when the local authority gives written permission for tunneling. Open the trench sufficiently ahead of pipe-laying to reveal any obstructions. Sheet and brace trench as necessary to protect workmen and adjacent structures. All trenching is to comply with OSHA Standards. Keep trenches free from water while construction is in progress. Under no circumstances shall pipe or appurtenances be laid in standing water. Conduct the discharge from trench de-watering to drains or natural drainage channels.
F) Special supports: whenever, in the opinion of the engineer, the soil at or below the pipe grade is unsuitable for supporting sewers and appurtenances specified in this section, such special support, in addition to those shown or specified, shall be provided as the engineer may direct and the contract will be adjusted.
G) Backfilling: backfill shall be placed as shown in the plans. Compact this backfill thoroughly, taking care not to disturb the pipe. Backfill under and within 5 feet of walks, parking areas, driveways and streets shall be b-borrow or equivalent granular material and thoroughly compacted by approved methods.
H) Manhole inverts: construct manhole flow channels of concrete sewer pipe or brick, smoothly finished and of semicircular section conforming to the inside diameter of the connecting sewers. Make changes in size or grade gradually and changes in direction by true curves. Provide such channels for all connecting sewers at each manhole.
I) Utilities: it shall be the responsibility of the contractor to verify all existing utilities and conditions pertaining to his work. It shall also be the contractor's responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owner and the engineer of any changes, errors or omissions found on these plans or in the field before work is started or resumed.

Section 4 - Water Line System

1. Scope of work

A) The work under this section includes all water main, fire hydrants, services and related items. Including excavating and backfilling necessary to complete the work shown on the drawings.

2. Materials

A) All materials shall conform to all local, state, and national codes and shall be approved by all local and state agencies having jurisdiction.
B) All mechanical joints shall be manufactured by mega-lug.
C) All tapping sleeves must be stainless steel.

3. Application

A) Permits and codes: the intent of this section of the specifications is that the contractor's bid, on the work covered herein, shall be based upon the drawings and specifications and that the work shall comply with all applicable codes and regulations as amended by any waivers. The contractor shall furnish all bonds necessary to get permits for cuts and connections to existing water mains and to perform the work outlined within these construction plans.
B) Local standards: the term "local standards" as used herein means the standards of design and construction of the respective municipal department or utility company.
C) Existing improvements: line contractor shall maintain, in operating condition, all active utilities, sewers and other drains encountered during installation. The contractor shall repair, to the satisfaction of the owner, any damage to existing active improvements.
D) Workmanship: this work shall conform to all local, state and national codes and to be approved by all local and state agencies having jurisdiction. This includes all required cleaning and testing procedures required by the state and local agencies.
E) Trenching: lay all pipe in open trenches, except when the local authority gives written permission for tunneling. Open the trench sufficiently ahead of pipe-laying to reveal any obstructions. The minimum width of trench shall be per plan details. Sheet and brace trench as necessary to protect workmen and

adjacent structures. All trenching is to comply with OSHA standards. Keep trenches free from water while construction is in progress. Under no circumstances shall pipe or appurtenances be laid in standing water. Conduct the discharge from trench de-watering to drains or natural drainage channels.
F) Special supports: whenever, in the opinion of the engineer, the soil at or below the pipe grade is unsuitable for supporting pipe and appurtenances specified in this section, such special support in addition to those shown or specified, shall be provided as the engineer may direct and the contract will be adjusted.

G) Backfilling: backfill shall be placed as shown in the plans. Compact this backfill thoroughly, taking care not to disturb the pipe backfill under and within 5 feet of walks, parking areas, driveways and streets. Backfill shall be b-borrow or equivalent granular material only and thoroughly compacted by approved methods.

H) Utilities: it shall be the responsibility of the contractor to verify all existing utilities and conditions pertaining to his work. It shall also be the contractor's responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owner and the engineer of any changes, errors or omissions found on these plans or in the field before work is started or resumed.

Section 5 - Sanitary Sewer Systems

1. Scope of work

A) The work under this section includes all sanitary sewers, manholes, cleanouts and related items, including excavating and backfilling, necessary to complete the work shown on the drawings. Starting outside the building walls, the end of the sewers shall be tightly plugged or capped at the terminal points. Adjacent to the building, drain as specified in the plumbing specifications and/or architectural drawings.

2. Materials

A) Sanitary Sewers:

- All gravity plastic sewer pipe fittings shall conform to ASTM D3034 with a cell classification of 12454-B or 12454-C. Flexible gasketed compression joints shall be used for PVC & PVC truss pipe. No solvent cement joints shall be allowed.
- ABS sewer pipe and fittings shall conform to ASTM D2680 latest revision. Sanitary sewer tape shall be installed with all new sanitary pipe and laterals. Tape shall be installed one foot above proposed sewer.

B) Manholes:

- Precast reinforced concrete manhole sections and steps shall conform to ASTM C-478 latest revision. Exterior of the manhole shall be waterproofed with bismatic material.
- Castings shall be of uniform quality, free from blow holes, porosity, hard spots, shrinkage distortion or other defects. They shall be smooth and well-cleaned by shot-blasting or by some other approved method. They shall be coated with asphalt paint which shall result in a smooth coating that is tough and tenacious when cold but not tacky or brittle. They shall be gray iron meeting ASTM A_48 latest revision.
- Joints: manhole sections shall be joined with a nominal 1/2 inch size butyl rubber base gasket material, conforming to AASHTO M-198 and federal specification SS-S-210A. Joint conforms to ASTM C-443.
- Manholes shall include steps. Sanitary sewer standards revisions shall be that steps are to be copolymer polypropylene coated steel reinforcing or an approved noncorrosive fiberglass material. The copolymer polypropylene shall meet the requirements of astnid-4101 with deformed 3/8 inch diameter or larger reinforcing steel conforming to ASTM A-615, grade 60. Steps shall be a maximum of 24 inches from top, 24 inches from bottom and 16 inches spacing between.

3. Application

A) Permits and codes: the intent of this section of the specifications is that the contractor's bid, on the work covered herein, shall be based upon the drawings and specifications and that the work shall comply with all applicable codes and regulations as amended by any waivers. Contractor shall furnish all bonds necessary to get permits for cuts and connections to existing sewers.
B) Local standards: the term "local standards" as used herein means the standards of design and construction of the respective municipal department or utility company.
C) Existing improvements: the contractor shall maintain, in operating condition, all active utilities, sewers and other drains encountered in the sewer installation. The contractor shall repair, to the satisfaction of the owner, any damage to existing active improvements.
D) Workmanship: this work shall conform to all local, state and national codes and to be approved by all local and state agencies having jurisdiction.
E) Trenching: lay all pipe in open trenches, except when the local authority gives written permission for tunneling. Open the trench sufficiently ahead of pipe-laying to reveal any obstructions. Sheet and brace trench as necessary to protect workman and adjacent structures. All trenching is to comply with OSHA Standards. Keep trenches free from water while construction is in progress. Under no circumstances shall pipe or appurtenances be laid in standing water. Conduct the discharge from trench de-watering to drains or natural drainage channels.
F) Special supports: whenever, in the opinion of the engineer, the soil at or below the pipe grade is unsuitable for supporting sewers and appurtenances specified in this section, such special support in addition to those shown or specified, shall be provided as the engineer may direct, and the contract will be adjusted.
G) Backfilling: backfill shall be placed as shown in the plans. Compact this backfill thoroughly, taking care not to disturb the pipe. Backfill under and within 5 feet of walks, parking areas, driveways and streets shall be #8 stone only and thoroughly compacted by approved methods.
H) Leakage testing: the contractor shall furnish the necessary equipment to test sewers for infiltration. All sanitary sewer gravity lines, upon completion, shall be required to pass all tests as specified and required by the appropriate city sewer department. Contractor must provide 24 hour notice to the appropriate city sewer department prior to any testing activities.
I) Hydrostatic test a hydrostatic test shall be performed with a minimum of two (2) feet of positive head. The rate of exfiltration or infiltration shall not exceed two hundred (200) gallons per inch of pipe diameter per linear mile per day.
J) Low pressure air test: a low pressure air test shall be conducted in accordance with ASTM F1417, standard test method for installation acceptance of plastic gravity sewer lines using low pressure air, for plastic pipe.
K) All sanitary sewer manholes shall also be air tested in accordance with ASTM C1244-93, standard test method for concrete sewer manholes by negative air pressure (vacuum) test.
L) Flushing sewers
Flush all sanitary sewers except building sewers with water to obtain free flow low through each line. Remove all silt and trash from appurtenances just prior to acceptance of work.
M) Plastic sewer pipe installation: plastic sewer pipe shall be installed in accordance with ASTM D2321 per latest revision. Pipes shall be tested after thirty days, using a mandrel that is 95% of the inside diameter of the pipe being tested. Said mandrel shall be pulled by hand through each pipe section to ensure detection is less than acceptable limits.
N) Storm water connections: no roof drains, footing drains and/or surface water drains may be connected to the sanitary sewer systems, including temporary connections during construction.
O) Waterline crossing: where water lines and sanitary sewers cross and water lines cannot be placed above the sewer with a minimum of 18 inches vertical clearance, the sewer must be constructed of water works grade ductile iron pipe with mechanical joints within 10 feet of the water line.
P) Utilities: it shall be the responsibility of the contractor to verify all existing utilities and conditions pertaining to his work. It shall also be the contractor's responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owner and the engineer of any changes, errors or omissions found on these plans or in the field before work is started or resumed.
Q) Service laterals: individual building lines shall be 6 inches in diameter and of material equal to that specified in 2a of this section. Service lines shall be connected to the main sewer at locations shown in these plans. Changes in lateral location must be approved by local sanitary sewer authority or project engineer.

NO.	DATE	REVISIONS	BY	CHECKED

Section 1, Township 10 North, Range 9 West of the Second Principal Meridian, Linton Township, City of Terre Haute, Vigo County, Indiana

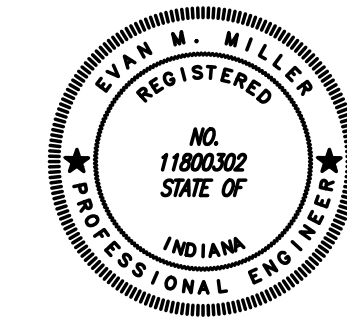
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Evan M. Miller

CLIENT
VIGO COUNTY PARKS AND RECREATION DEPARTMENT

RECORD OWNER
VIGO COUNTY PARKS AND RECREATION DEPARTMENT

PROJECT NUMBER: 24-168
DATE: 11/19/2024
DRAWN BY: ATF
CHECKED BY: EMM
APPROVED BY: ENMM
SCALE:
FILE NAME: 24-168 Sheets

STANDARD SPECIFICATIONS

C902