



BOARD OF ZONING APPEALS STAFF REPORT

To: Members of the Board of Zoning Appeals

From: Rachel Christenson, AICP, On-call Planner for the Town of Munster

Meeting Date: September 12, 2023

Agenda Item: BZA Docket No. 23-010

Application Type: **Developmental Standards Variance**

Hearing: **PRELIMINARY HEARING**

Summary: BZA 23-010 Katherine Rayner (Crew Carwash) requests approval of three (3) variances from TABLE 26-6.405.A-6 to permit an off-site dumpster enclosure, to allow a decrease in the percentage of required landscaping in the first lot layer, and a sign variance.

Applicant: Katherine Rayner/Crew Carwash

Property Address: 111 Ridge Road

Current Zoning: CD-4A General Urban-A Character District

Adjacent Zoning: North: CD-3.R1 (Neighborhood- 70' Lot SFR Character District)
South: CD-4A General Urban-A Character District
East: CD-4A General Urban-A Character District
West: CD-4A General Urban-A Character District

Action Requested: Public Hearing

Additional Actions Required: Public Hearing
Findings of Fact

Staff Recommendation: **Move petition to a public hearing on October 10, 2023**

Attachments:

1. Dumpster Enclosure Plan & Elevations prepare by Cripe
2. Landscape Plan completed by Wildridge Landscape 8/2/2023
3. Development Plans completed by DVG 8/22/2023
4. Site Enclosure Plans/Elevations completed by Cripe 8/11/2023
5. Narrative Statement from Katherine Rayner 8/22/2023

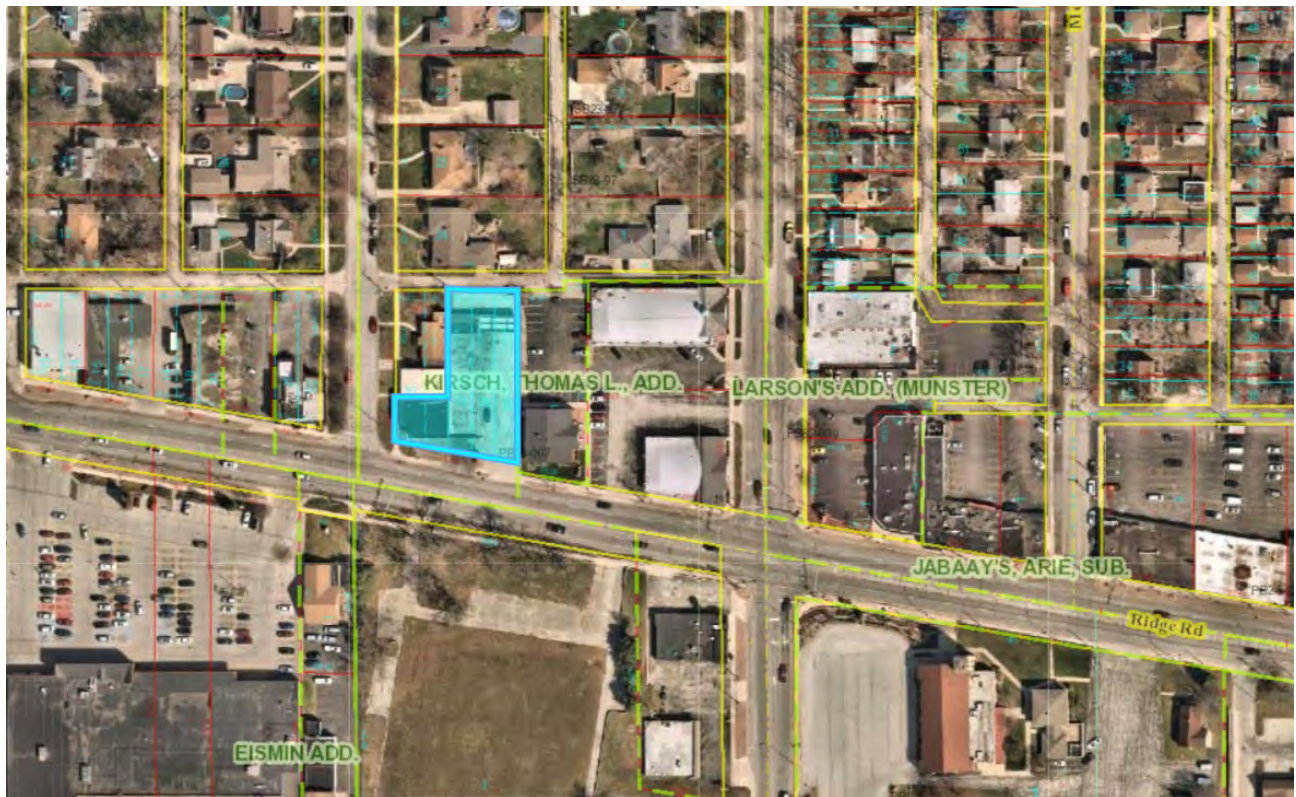


Figure 1 Subject property.

BACKGROUND

Katherine Rayner/Crew Carwash submitted an application for three variances from TABLE 26-6.405.A-6 of the Munster zoning ordinance to allow an off-site dumpster, to decrease the required landscape percentage in Lot Layer 1, and for a sign variance at the former Munster Carwash site at 111 Ridge Road. This former carwash is being renovated to reopen as a Crew Carwash.

The project will consist of a one-story carwash tunnel with approximately 5,780 square feet of total floor area. All traffic will enter at the south end of the property from Ridge Road. Customers will enter one of three proposed lanes where the customer will select and pay for their wash.

1005 Ridge Road • Munster, IN 46321 • (219) 836-8810 • Police/Fire Emergencies 911

Police Non-Emergency (219) 836-6600 • Fire Non-Emergency (219) 836-6960

www.munster.org

DISCUSSION

The petitioner is proposing an off-site dumpster. The proposed location of the dumpster is at 131 Ridge Road (immediately east of the proposed Crew Carwash site). The Munster Character Based Zoning code requires a dumpster to be located on site.

TABLE 26-6.405.A-6

Off-Street Loading, Storage, Drive-Through, Trash Receptacle/Dumpster, Utility Box & Service Meter* Requirements –

Off-Street Trash Receptacle/Dumpster is required for all Building types and must be fully enclosed on three (3) sides and enclosed on the fourth (4th) side with self-closing gate. Enclosure must be constructed of a material that matches the Principal Building.

The petitioner is also proposing a decrease in the required percentage of landscaping in Lot Layer 1. The Munster zoning code requires 30% of the first lot layer greater or equal to 10 feet be landscaped. Due to the location of the entry and exit drives, it does not appear that this requirement is being met.

TABLE 26-6.405.A-6

Private Landscaping and Fencing –

Required for all areas not covered by Structure, Parking Area, walkway, patio, terrace, or deck. If First Lot Layer \geq 10ft., minimum of 30% of 1st Lot Layer must be landscaped in compliance with Section 26-6.405.P. 1st Lot Layer may not be paved except for driveway and sidewalk.

The petitioner is also requesting a sign variance. Drawings and information about the plans for the sign was submitted on September 9th, 2023, and staff has not had time to do a review to see what variance(s) may be needed.

VARIANCE STANDARDS

The variance process is established to provide relief to a property owner when, due to unique circumstances, compliance with the zoning code imposes a hardship or practical difficulty on a property owner. The BZA is under no obligation to grant a variance. It is the petitioner's responsibility to prove a hardship or practical difficulty. The BZA should ask the petition to address the criteria listed below.

Sec. 26-6.804.I of the Munster Zoning Code states that the basis for a variance is as follows:

g. General Standards.

A Variance may be granted only if the Decision-Making Authority has made the following determinations for such Variance:

- i. the practical difficulties or unnecessary hardships that would be incurred by strict application of the Use or Development standard, as applicable, are unique and not shared by all properties in the vicinity and are not self-imposed;

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- ii. such Variance is the minimum Variance that will relieve such practical difficulties or unnecessary hardships, as applicable;
- iii. such Variance is in the spirit of the general purposes and intent of this Article as stated in Division 1; and
- iv. such Variance is so designed as to provide reasonable consideration to, among other things, the character of the neighborhood, District, or Civic Zone, the conservation of property values in the vicinity, and the guidance of Development in accordance with the Comprehensive Plan.

h. Specific to Development standards Variances:

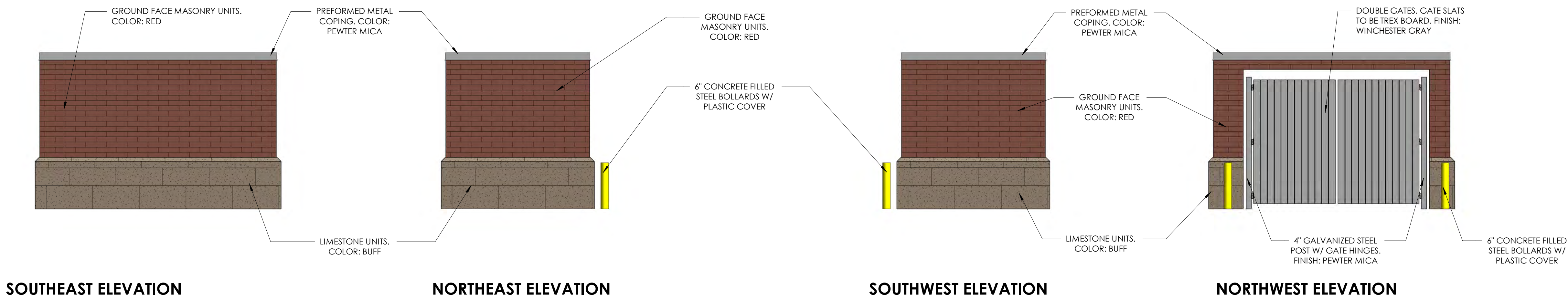
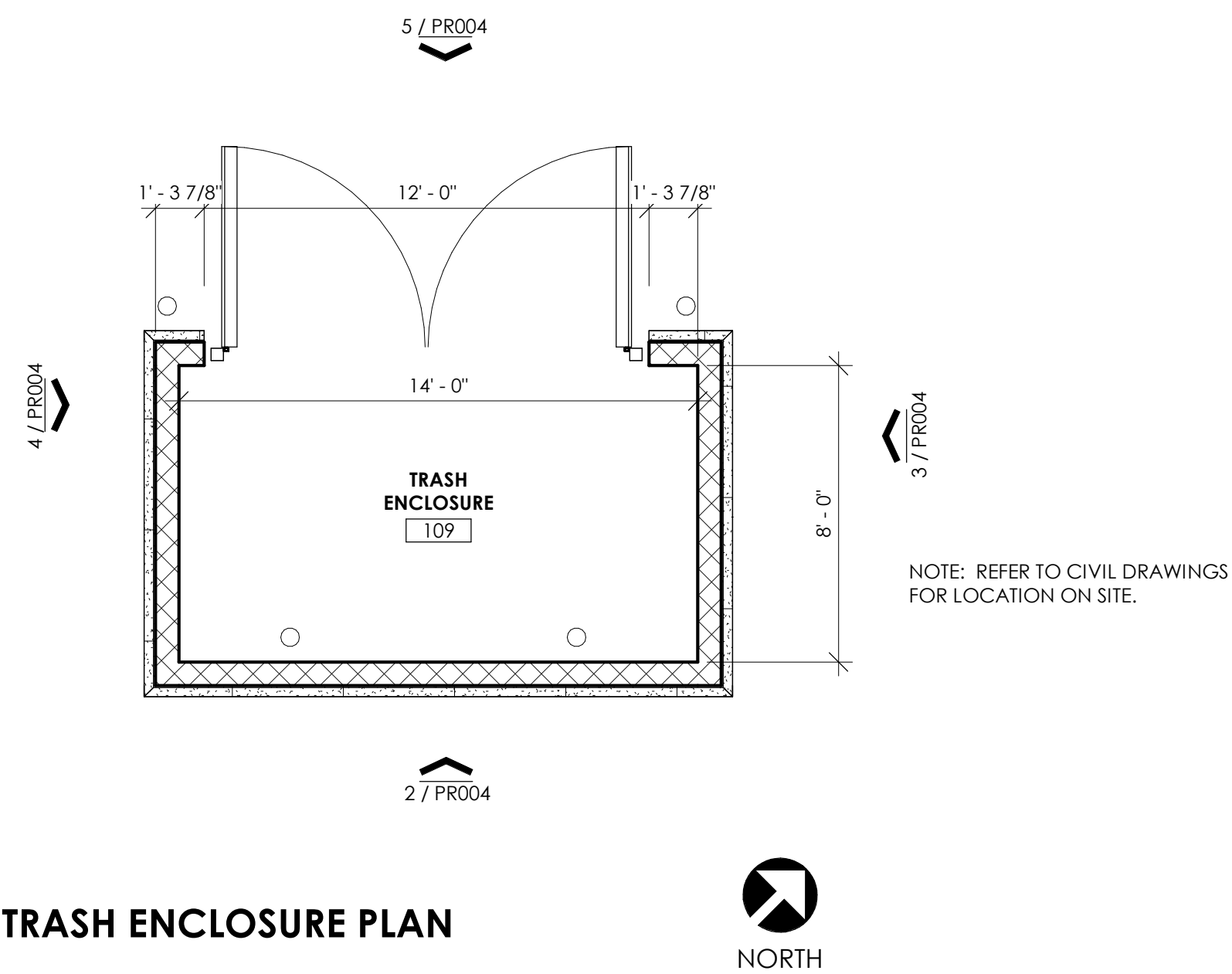
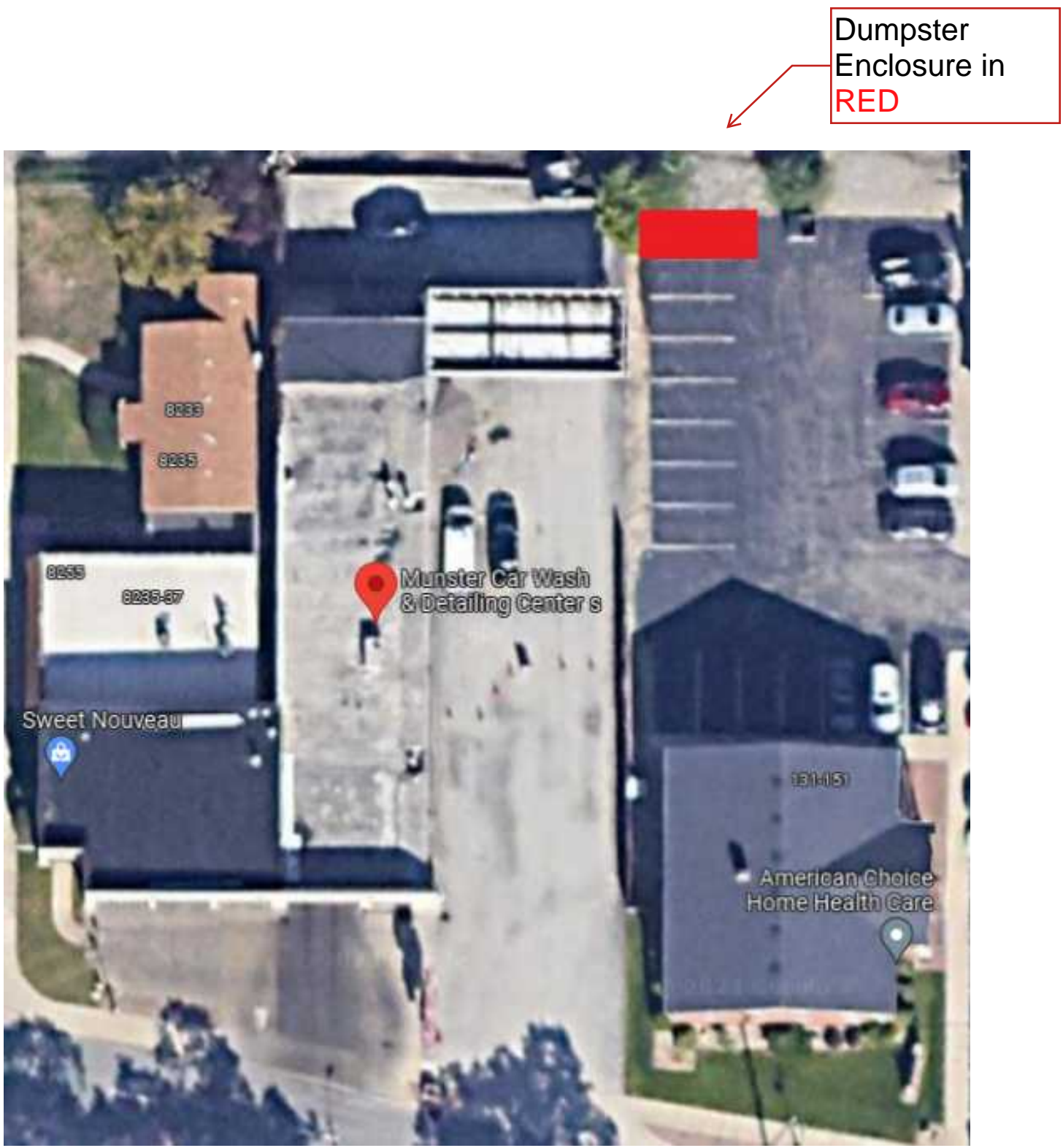
A Variance from Development Standards may be approved or approved with conditions only if:

- i. it will not be injurious to the public health, safety, morals, and general welfare of the community;
- ii. the use and value of the area Adjacent to the property included in the Variance will not be affected in a substantially adverse manner; and
- iii. the strict application of the Development standards will result in practical difficulties in the use of the property.

RECOMMENDATION

The Board of Zoning Appeals may wish to consider the following motion:

Motion to move BZA Docket No. 23-010 to a public hearing on October 10, 2023.



SITE ENCLOSURE PLAN & ELEVATIONS

CREW CARWASH, INC
111 Ridge Rd
Munster, IN 46321

08/11/23
PRO2023
1/4" = 1'-0"





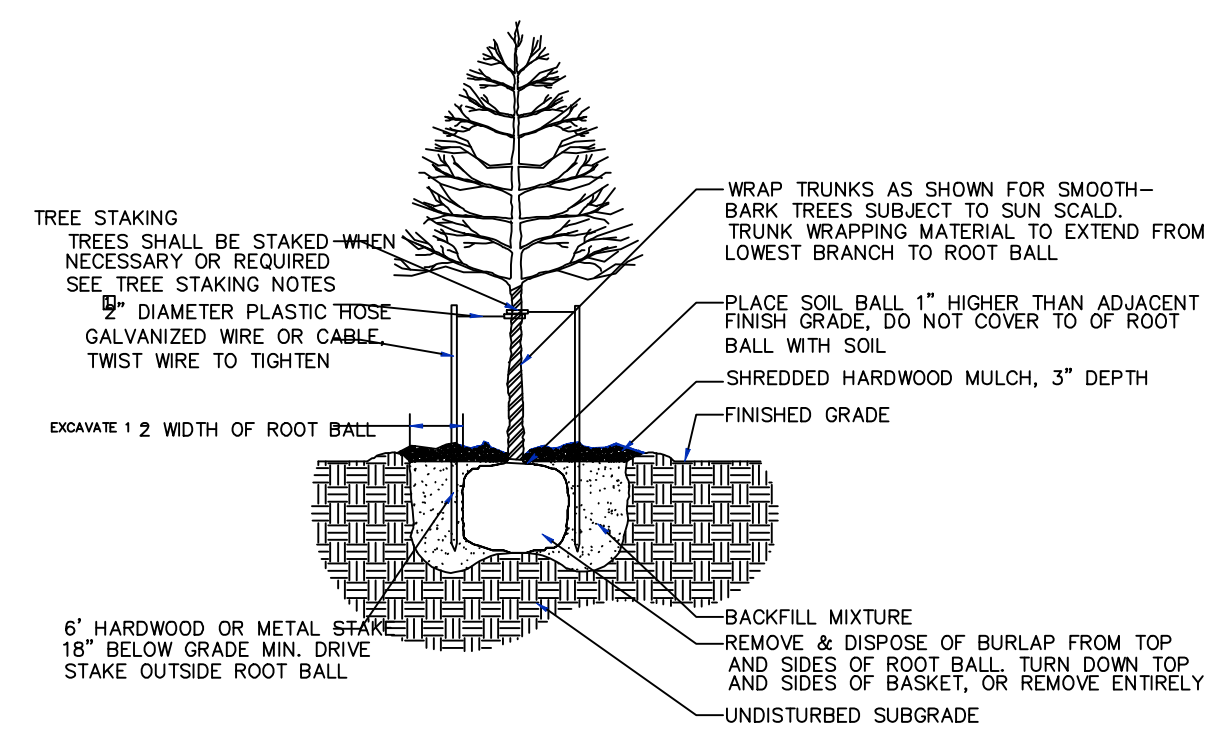
GENERAL NOTES:

1. UTILITY LOCATION NOTE: ALL LOCATIONS SHOWN ARE APPROXIMATE AND BASED ON INFORMATION SUPPLIED BY EITHER THE CIVIL ENGINEER, SURVEYOR, OR OTHER PROFESSIONAL MEASURED IN FIELD. IF DISCREPANCIES ARE DISCOVERED, CONTRACTOR SHALL NOTIFY OWNER AND LANDSCAPE ARCHITECT IMMEDIATELY AND PRIOR TO BEGINNING WORK.
2. CASE OF DISCREPANCIES BETWEEN THE PLAN AND THE PLANT LIST, THE PLAN SHALL PREVAIL.
3. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL PREPARATION, MATERIALS, DELIVERY, INSTALLATION AND INITIAL MAINTENANCE FOR THE LANDSCAPE PORTION OF THE PROJECT AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE OWNER'S REPRESENTATIVE. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR THE PROTECTION AND REPAIR OF ALL EXISTING UTILITIES AND STRUCTURES.
4. PLANTS AND ALL OTHER MATERIALS TO BE STORED ON SITE WILL BE PLACED WHERE THEY WILL NOT CONFLECT W/ CONSTRUCTION OPERATIONS AND ACCESS TO THE SITE.
5. ALL UTILITIES SHALL BE LOCATED AND MARKED/FLAGGED PRIOR TO BEGINNING WORK. RELOCATE PLANTS FROM OVER OR UNDER UTILITIES. RELOCATION SHALL BE APPROVED PRIOR TO INSTALLATION.
6. CLEAN UP AND DEMOBILIZATION SHALL BE COMPLETE, REPAIR ALL DAMAGED OR DISTURBED AREAS CAUSED BY LANDSCAPE CONSTRUCTION.
7. STONE MULCH SHALL BE 4-8" GRANITE COBBLES. INSTALL LANDSCAPE FABRIC PRIOR TO INSTALLATION.
8. STONE EDGING SHALL BORDER ALL STONE MULCH AREAS. STONE EDGING SHALL BE 4" HIGH AND BUILT ON CONCRETE.

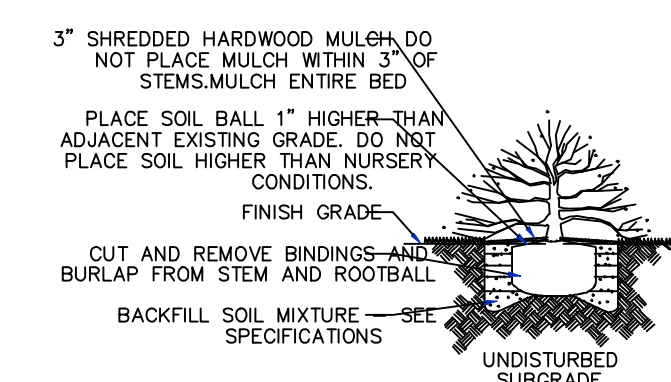
1. REMOVE WEEDS, ORGANIC MATTER AND ROCKS LARGER THAN 1.5" FROM SURFACE.
2. BACKFILL FOR TREE PLANTING SHALL BE 75% APPROVED TOPSOIL AND 25% APPROVED ORGANIC COMPOST. TOP LAYER OF BACKFILL SHALL BE 100% OF SURROUNDING TOPSOIL. A 4-10" x 5" ANALYSIS LOW-SPEED FERTILIZER SHALL BE INCORPORATED INTO BACKFILL AT APPROVED RATES.
3. ALL TREE PLANTS SHALL BE 100% GUARANTEED FOR ONE YEAR. IN THE EVENT OF LOSS OF A TREE DUE TO DISEASE OR OUTSIDE OF MAINTENANCE, THE OWNER SHALL HAVE A MINIMUM 5% (5" DIA) FERTILIZER NON-RELEASE SAUNDER AROUND PLANTING PLANT. ALL SAUCERS SHALL BE NEEDED AND GRASS FREE. AN APPROVED PRE-EMERGENT HERBICIDE SHALL BE APPLIED IN ALL PLANTING BEDS AT A RATE SPECIFIED BY MANUFACTURER FOR EACH PLANT VARIETY.
4. ALL TREE SAUCERS AND PLANTING BEDS SHALL RECEIVE MINIMUM OF (3") INCHES GRADE, A BROWN EYE HARDWOOD BARK MULCH.
5. NO SUBSTITUTIONS OF PLANT MATERIALS WILL BE ALLOWED. IF PLANTS ARE NOT AVAILABLE, THE CONTRACTOR SHALL NOTIFY LANDSCAPE OWNER'S REPRESENTATIVE IN WRITING. ALL PLANTS SHALL BE INSPECTED AND TAGGED WITH PROJECT ID. ALL NURSERY OR CONTRACTORS OPERATIONS ARE REQUIRED TO FOLLOW TO JOBSITE. ALL PLANTS MUST BE APPROVED OR REJECTED ON THE JOBSITE BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
6. THE CONTRACTOR'S AGENT, OR THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO INSPECT AND ON ALL PLANT MATERIALS AT ANY TIME DURING THE COURSE OF THE PROJECT UNTIL PROJECT IS ACCEPTED BY THE OWNER.
7. LANDSCAPE CONTRACTOR SHALL LAYOUT AND STATE ALL PLANT LOCATIONS AS SHOWN ON THE DRAWINGS PRIOR TO INSTALLATION. OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT SHALL INSPECT AND APPROVE PLANT LOCATIONS FOR ACCURACY AND COMPLIANCE WITH DESIGN INTENT PRIOR TO INSTALLATION.
8. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE PLANTING OF SPECIFIED PLANTS AND MAINTAINING ALL PLANT MATERIALS IN AN ALIVE AND HEALTHY CONDITION. ACCEPTANCE OF PLANTING SHALL BE BASED ON QUALITY OF PLANTING, WATERING, WEEDING, INSECT AND DISEASE CONTROL, PRUNING OF DAMAGED OR UNUSUALLY LIMBS, AND KEEPING PLANTS IN TRUE AND UPRIGHT POSITIONS.
9. CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL TO REMAIN ALIVE AND HEALTHY FOR ONE (1) YEAR from date of acceptance. BY THE OWNER. IF ANY PLANTS SHOWN ON THE DRAWINGS ARE NOT AVAILABLE AT THE TIME OF PLANTING, THE CONTRACTOR SHALL GUARANTEE REPLACEMENTS SHALL BE AS DIRECTED BY THE OWNER UNTIL FINAL ACCEPTANCE OF THE PROJECT FOLLOWING THE GUARANTEE PERIOD.

1. CONTRACTOR TO FINE GRADE AND PREPARE ALL SITE AREAS TO RECEIVE SOIL. MAKE SITE SMOOTH TO FINAL GRADING PLAN ELEVATIONS, FILL IN DEPRESSIONS, LOW SPOTS AND GRADE SMOOTH.
2. CONTRACTOR TO FILL IN ALL EXISTING HOLES AND PATCH ALL EXISTING CRACKS IN EXISTING DRIVEWAYS AND SIDEWALKS. ALL CRACKS THAT HAVE BEEN REPAIRED SHALL BE REPAIRED TO ORIGINAL FINISH.
3. PROVIDE "CONSTRUCTION ARMY" OF NOT YET KILLED (EXCISING LANDSCAPING) SHALL NOT BE FORWARDED OR TO CROSS ANY PLANTING AREA. CONTRACTOR SHALL FILL IN ALL EXISTING HOLES AND PATCH ALL EXISTING CRACKS IN EXISTING DRIVEWAYS AND SIDEWALKS. ALL CRACKS THAT HAVE BEEN REPAIRED SHALL BE REPAIRED TO ORIGINAL FINISH.
4. PLACE FRESH CUT KENTUCKY BLUEGRASS SOIL TO BE LAID WITHIN 48 HRS OF THE DATE OF THE CONTRACT.
5. A SCARIFY SOIL TO DEPTH OF 3 INCHES PRIOR TO APPLICATION.
6. WATER AND MAINTAIN GRASS UNTIL STAND IS ESTABLISHED AND READY FOR MOWING AT MINIMUM 4 INCH HEIGHT. CONTINUE TO WATER FOR A MINIMUM 30 DAYS OR UNTIL ACCEPTED BY OWNER.
7. FOLLOWING SOODING OR CROPPING SHALL BE DONE: REMOVE ALL EXISTING MATERIALS, AND CLEAN ALL BARK MULCH AND PAVED AREAS.
8. ALL LAWNMOWERS SHALL BE GUARANTEED TO HAVE A FULL FILL 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 WILL BE RESEED OR SOODED UNTIL AN ACCEPTABLE STAND OF GRASS IS ESTABLISHED.
9. ALL DISTURBED LAWN AREAS SHALL BE SOODED AS NOTED AND AS APPROVED BY OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.

1. CONTRACTOR TO STAKE WHEN NECESSARY OR REQUIRED, SUCH AS WIND PHONE AREAS OR UNSTABLE SOILS. STAKES SHALL BE PLACED AT 10' INTERVALS.
2. STAKING SHOULD NOT BE USED TO COMPENSATE FOR DAMAGED OR WEAK TRUNKS OR ROOT BILLS. THESE TREES SHOULD BE REJECTED.
3. REMOVE ALL STAKES AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE FIRST GROWING SEASON AFTER PLANTING.
4. ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TRUNK TREE IS A SMOOTH AND SLIPPERY SURFACE.
5. WIRES OR CABLES SHALL BE 14 TO 12 GAUGE.
6. TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING, ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE TO BE USED ENOUGH TO ACCOMMODATE THE GROWTH AND SUFFER ALL BRANCHES FROM THE TRUNK.
7. TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE MOVES ARE EXPOSED.



PLANTING DETAIL – NOT TO SCALE



PLANTING DETAIL – NOT TO SCALE

Symbol	Scientific Name	Common Name	QTY	Size
AC	Amelanchier canadensis	Serviceberry	2	Single Stem
BS	Buxus x 'Green Velvet'	Green Velvet Boxwood	24	3 9
CA	Calamagrostis x acutiflora Karl Foerster	Karl Foerster Feather Reed Grass	49	3 9
HP	Hydrangea paniculata 'Little Quick Fire'	Little Fire Hydrangea	14	3 9
RM	Rosa 'Meigalpio'	Drift Rose	15	3 9

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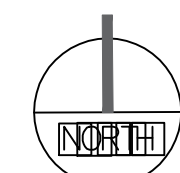


Crew Carwash


111 Ridge Road
Munster, IN

DATE August 2, 2023

REVISIONS



SCALE IN FEET

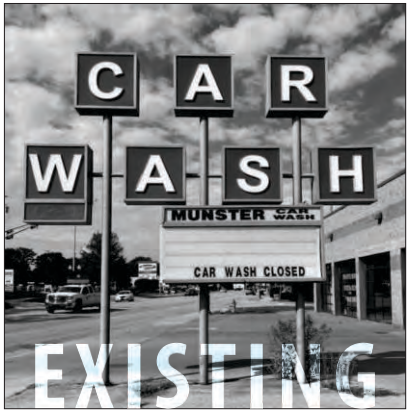
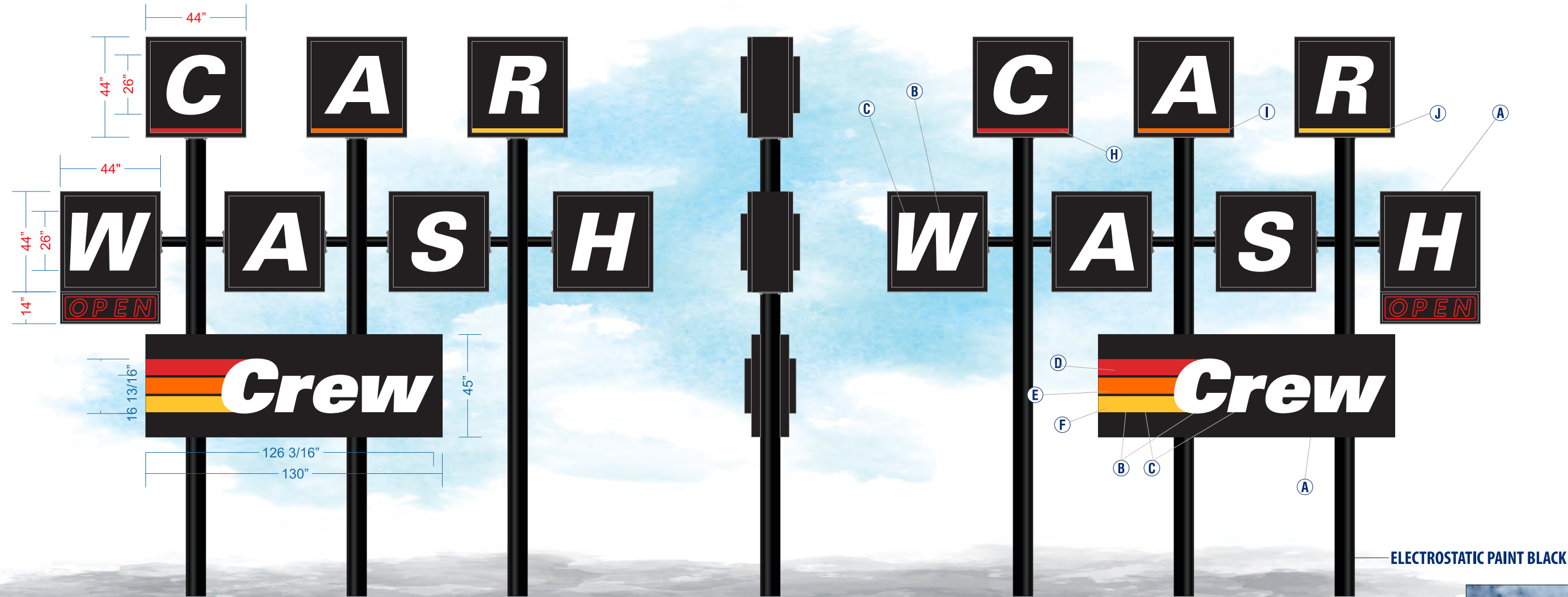


0 10 20

SHEET TITLE
Landscape Plan

DESIGN
SR
ACCOUNT MANAGER
KR

SHEET NUMBER
1 of 1



EXISTING

NOT TO SCALE

REMOVE EXISTING CHANNEL LETTERS & CHANGEABLE COPY BOARD & ELECTROSTATIC PAINT EXISTING PYLON SIGN TO MATCH SPECS
FABRICATE AND INSTALL QTY 14 NEW FACES FOR CHANNEL LETTER CABINETS & QTY 2 NEW FACES FOR NEON CABINET, QTY 2 SETS NEW CHANNEL LETTERS, & QTY 2 SETS REPLACEMENT NEON
FABRICATE AND INSTALL QTY 2 INTERNALLY ILLUMINATED FACE-LIT CHANNEL LETTER SETS ON BACKER PANS

“CAR WASH” CHANNEL LETTERS
FACES - 3/16” 7328 WHITE ACRYLIC
TRIM CAPS - 1” TO MATCH SPECS
RETURNS - 3” TO MATCH SPECS
BACKS - 3MM WHITE DIBOND
LEDS - STREETFIGHTER CHOICE - HO

CABINET FACES (FOR NEON & “CAR WASH” CHANNEL LETTER CABINETS)
FACES - .090 ALUMINUM PAINTED TO MATCH SPEC

“CREW” CHANNEL LETTERS ON BACKER PANS
BACKER PANS - 2” ALUMINUM ANGLE SKINNED IN .090 ALUMINUM PAINTED TO MATCH SPECS
BACKER DEPTHS - 4”
FACES - 3/16” 7328 WHITE ACRYLIC
VINYL - TO MATCH SPECS
RETURNS - 3” TO MATCH SPECS
TRIM CAPS - 1” TO MATCH SPECS
BACKS - 3MM WHITE DIBOND
LEDS - STREETFIGHTER CHOICE - HO



PHOTO SCALE: 1/8” = 1’ - 0”

INSTALLATION - NEW CABINET SIGNS MOUNTED TO POLES, CHANNEL LETTERS & NEON MOUNTED TO REPLACEMENT CABINET FACES, CHANNEL LETTERS ON BACKER PANS MOUNTED TO POLES



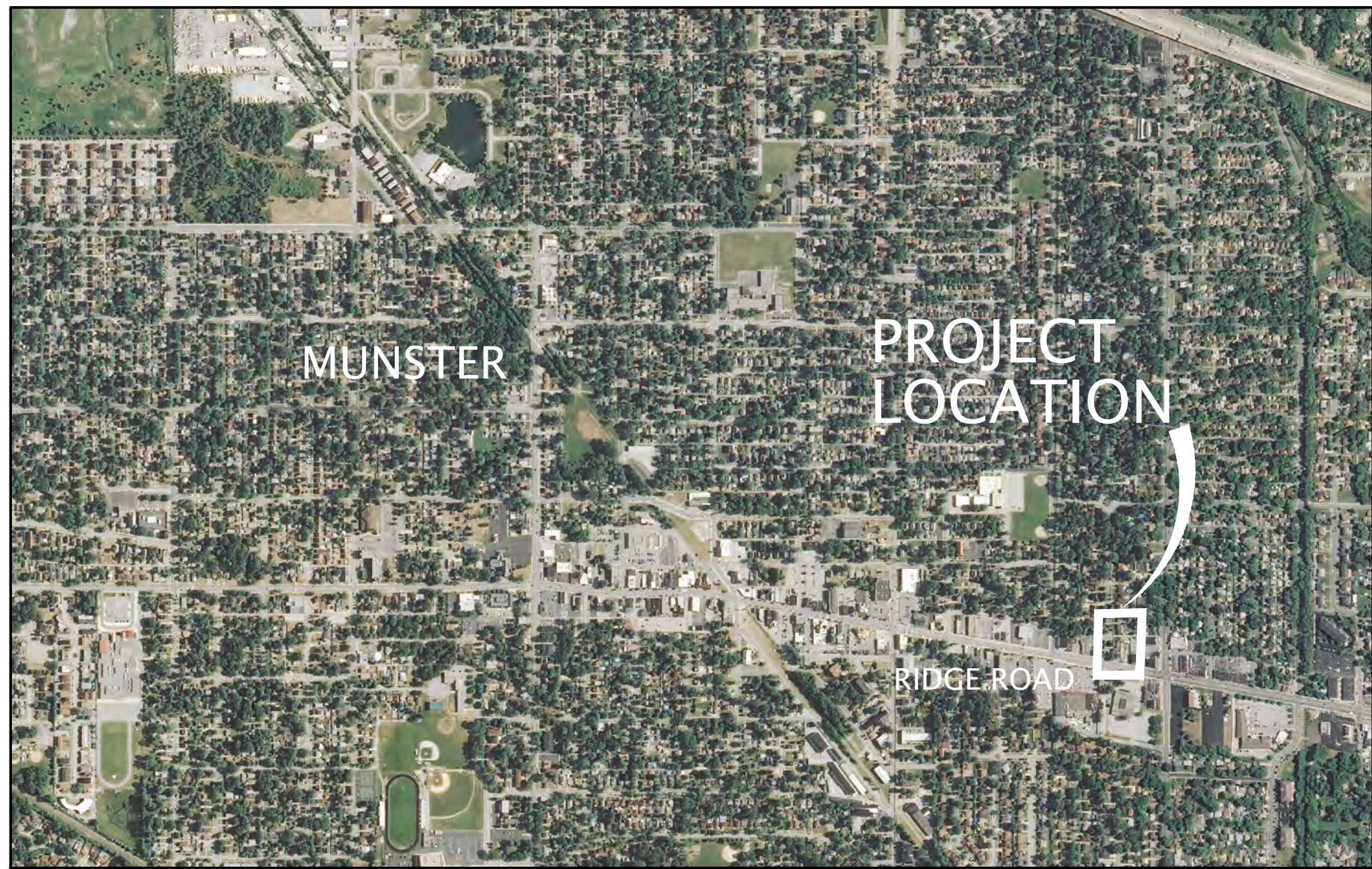


COLOR SPECIFICATIONS:		NOTE: THERE WILL BE COLOR VARIATIONS FROM THIS PRINTED DRAWING TO THE FINAL PRODUCT. COLORS SPECIFIED WILL ALWAYS BE MATCHED AS CLOSELY AS POSSIBLE. RENDERING IS BASED ON ESTIMATED DIMENSIONS. A FINAL SURVEY MAY ALTER ILLUSTRATED REPRESENTATION AND PLACEMENT.		SCI REP: CB	DESIGNER: NK	PERMIT INFORMATION: N/A	
A MP BLACK	F ORCAL 8500-020 GOLD. YELL.	IF ILLUMINATED: WILL BE WIRED TO 120 VOLT UNLESS OTHERWISE SPECIFIED. THIS SIGN IS INTENDED TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 600 OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER APPLICABLE LOCAL CODES. THIS INCLUDES PROPER GROUNDING AND BONDING OF THE SIGN.					
B BLACK RETURNS	G PMS 1795 C RED						
C BLACK TRIM CAPS	H PMS 1505 C ORANGE						
D ORCAL 8500-016 CRIMSON	I PMS 123 C YELLOW						
E ORCAL 8500-034 ORANGE	J			DATE: 10/09/2022	REVISION DATE: 09/07/2023	FINAL DATE & BY:	SHEET #: 1/1

CREW CARWASH #63

111 RIDGE ROAD, MUNSTER, IN 46321

ISSUED FOR PERMIT - 08/22/23



Location Map
(No Scale)

BENCHMARK

TOP OF SAW CUT CROSS ON THE SOUTHWEST CORNER OF THE SITE
ELEVATION = 621.26 (NAVD88)



Know what's below. Call before you dig.

To Submit a Locate Request
24 Hours a Day, Seven Days a Week:
Call 811 or 800-382-5544
www.Indiana811.org

INDEX OF SHEETS

C001	Cover Sheet
C101	Existing Conditions
C102	Demolition Plan
C103	Site Plan
C104	Grading Plan
C105	Utility Plan
C106	Stormwater Pollution Prevention Plan (SWPPP)
C201-C205	Construction Details
C301-C304	SWPPP Details

LEGEND

	EXISTING DRAINAGE STRUCTURE		EXISTING CONTOURS
	EXISTING END SECTION		PROPOSED CONTOURS
	EXISTING SANITARY STRUCTURE		BOUNDARY LINES
	EXISTING FIRE HYDRANT		RIGHT-OF-WAY LINES
	EXISTING VALVE & BOX		PROPOSED LOT LINES
	EXISTING B-BOX		UNDERLYING LOT LINE
	EXISTING STREET LIGHT		EASEMENT LINES
	POWER POLE		BUILDING LINES
	SRC PEDESTAL		CHAINLINK FENCE
	MAIL BOX		ORNAMENTAL FENCE
	PROPOSED DRAINAGE STRUCTURE		OVERHEAD POWER LINES
	PROPOSED END SECTION		TELEPHONE ROUTE
	PROPOSED SANITARY STRUCTURE		ELECTRIC ROUTE
	PROPOSED FIRE HYDRANT		GAS ROUTE
	PROPOSED VALVE & VAULT		EXISTING WATER
	PROPOSED VALVE & BOX		EXISTING STORM
	PROPOSED B-BOX		EXISTING SANITARY
	PROPOSED STREET LIGHT		PROPOSED WATER
	DIRECTION OF FLOW		EXISTING STORM
	OVERLAND FLOOD ROUTE		PROPOSED SANITARY
	PROPOSED TOP RETAINING WALL ELEVATION		
	PROPOSED BOTTOM OF RETAINING WALL ELEVATION		
	PROPOSED TOP OF CURB ELEVATION		
	PROPOSED GUTTER FLOWLINE ELEVATION		
	PROPOSED SURFACE ELEVATION		
	STORM SEWER		PROPOSED CB #1
	SANITARY SEWER		PROPOSED SAN MH A
	WATER		PROPOSED FH #1
			PROPOSED V.B. #1

PROJECT CONTACTS

SCHOOL DISTRICT
SCHOOL TOWN OF MUNSTER
8616 COLUMBIA AVENUE
MUNSTER, IN 46321
(219) 836-9111

WATER UTILITY
TOWN OF MUNSTER
WATER DEPARTMENT
1005 RIDGE ROAD
MUNSTER, IN 46321
(219) 836-6970

ELECTRIC & GAS UTILITY
NIPSCO
801 E. 86th AVENUE
MERRILLVILLE, IN 46410
(800) 464-7726

DEVELOPER/OWNER
CREW CARWASH
11700 EXIT 4 PARKWAY
FISHERS, IN 46037

MUNICIPAL
TOWN OF MUNSTER
COMMUNITY DEVELOPMENT
1005 RIDGE ROAD
MUNSTER, IN 46321
(219) 836-6995

SANITARY SEWER UTILITY
TOWN OF MUNSTER
SEWER DEPARTMENT
1005 RIDGE ROAD
MUNSTER, IN 46321
(219) 836-6970

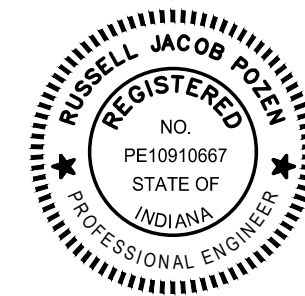
CABLE UTILITY
COMCAST
16 W. 84th DRIVE
MERRILLVILLE, IN 46410
(219) 738-2780

TELECOM UTILITY
AT&T
5858 N. COLLEGE AVENUE
INDIANAPOLIS, IN 46220
(317) 252-4007



1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

Handwritten signature



08/22/2023

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63
Cover Sheet

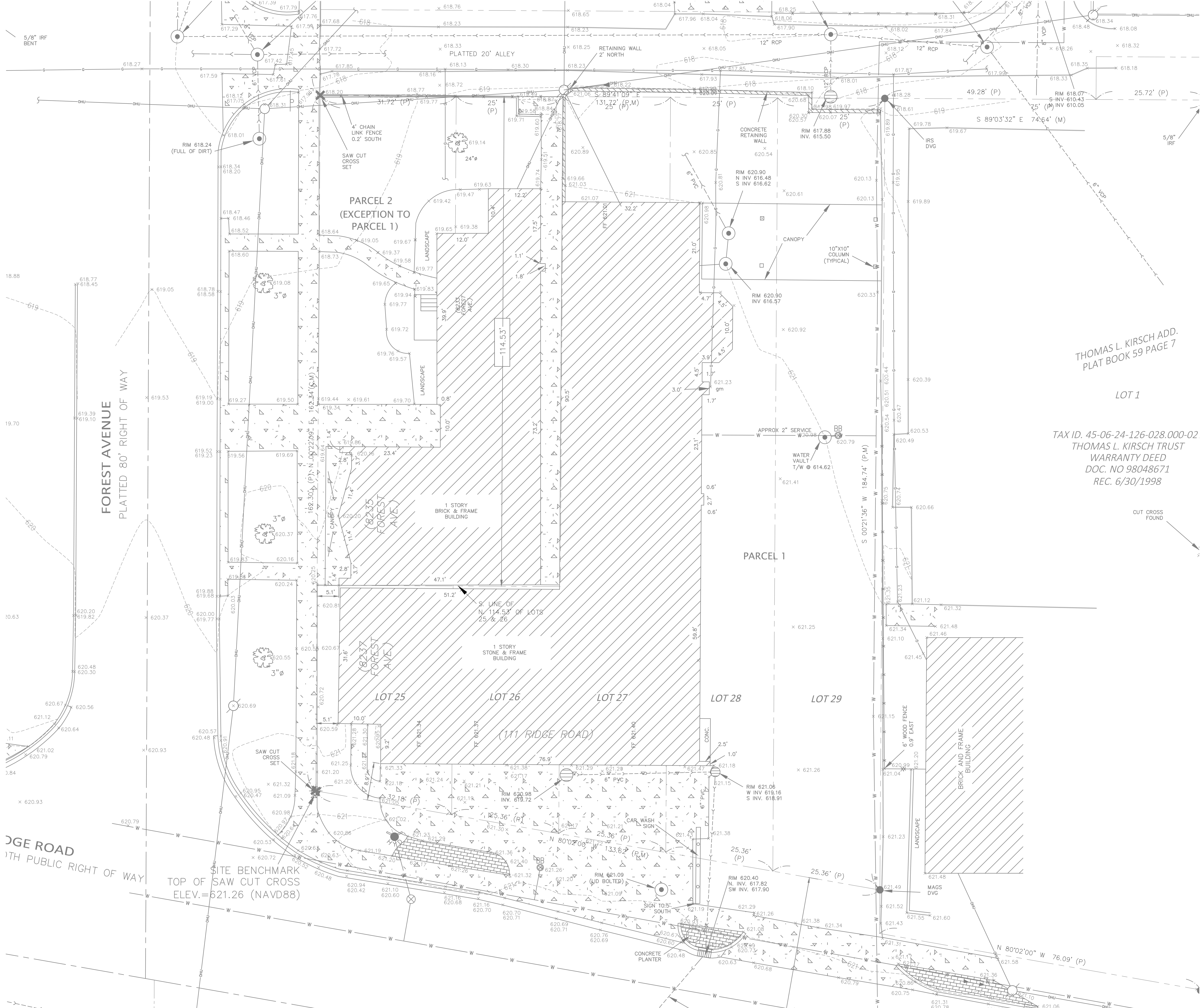
NO SCALE

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DESIGN BY	DATE
DVG	05/19/23

PROJECT NO.
22-0538

C001



DATE OF SURVEY
1. TOPOGRAPHIC SURVEY COMPLETED 08/22/2022.



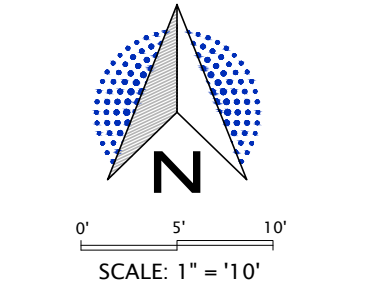
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com



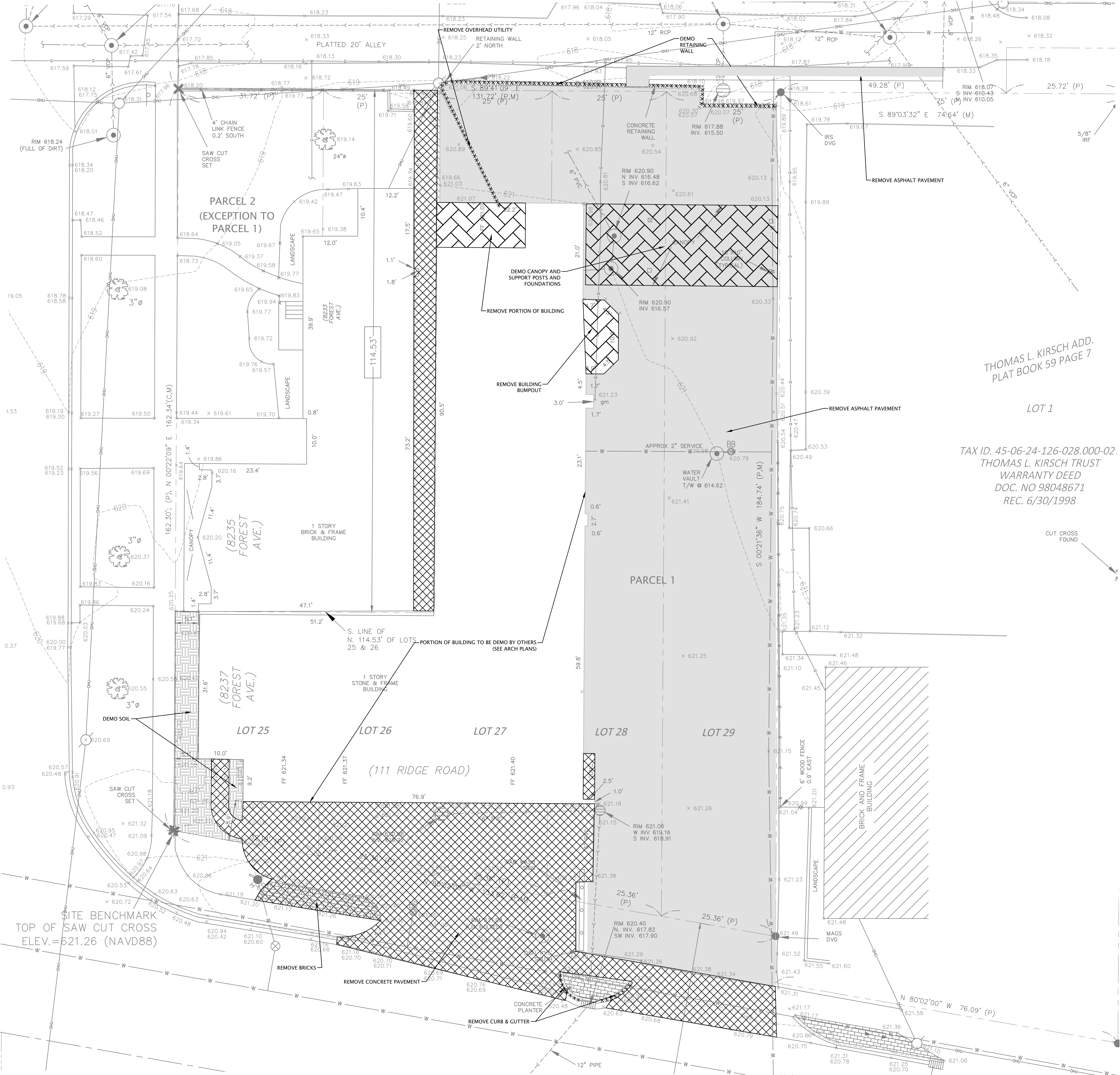
Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63
Existing Conditions



© COPYRIGHT 2017 DVG TEAM, INC	
DESIGN BY RJP	DATE 08/21/23
PROJECT NO. 22-0538	
C101	



NOTES

1. NO DEMOLITION SHALL TAKE PLACE UNTIL ALL PERMITS HAVE BEEN ACQUIRED.
2. THE CONTRACTOR SHALL FIELD-VERIFY SITE CONDITIONS AND INFORMATION ON DRAWINGS. PROMPTLY REPORT ANY CONCEALED CONDITIONS, MISTAKES, DISCREPANCIES, OR DEVIATIONS FROM THE INFORMATION SHOWN IN THE CONTRACT DOCUMENTS. THE OWNER IS NOT RESPONSIBLE FOR UNAUTHORIZED CHANGES OR EXTRA WORK REQUIRED TO CORRECT UNREPORTED DISCREPANCIES.
3. "REMOVAL" MEANS REMOVAL OF AN ITEM ABOVE GRADE AND REMOVAL OF ALL ELEMENTS BELOW GRADE INCLUDING, BUT NOT LIMITED TO, FOOTINGS, WIRINGS, AND PIPING THAT ARE IMMEDIATELY ADJACENT TO ITEM BEING REMOVED.
4. THE CONTRACTOR SHALL SAW CUT PAVEMENT FULL DEPTH AT LIMITS OF ASPHALT REMOVAL.
5. FOR ALL CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE CONCRETE TO NEAREST JOINT, UNLESS NOTED OTHERWISE.
6. EXISTING MATERIALS TO REMAIN AROUND THE CONSTRUCTION AREA SHALL NOT BE DAMAGED DURING CONSTRUCTION. IF ANY DAMAGE IS MADE, THE CONTRACTOR IS RESPONSIBLE TO REPAIR OR RESTORE TO THE ORIGINAL CONDITION AT CONTRACTOR'S OWN EXPENSE.

LEGEND

		ITEM TO BE REMOVED
		LINEAR REMOVAL ITEM



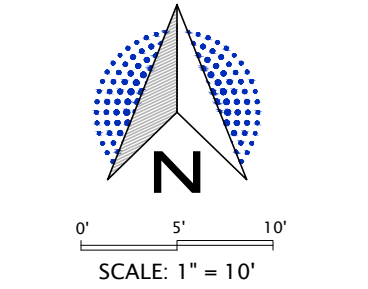
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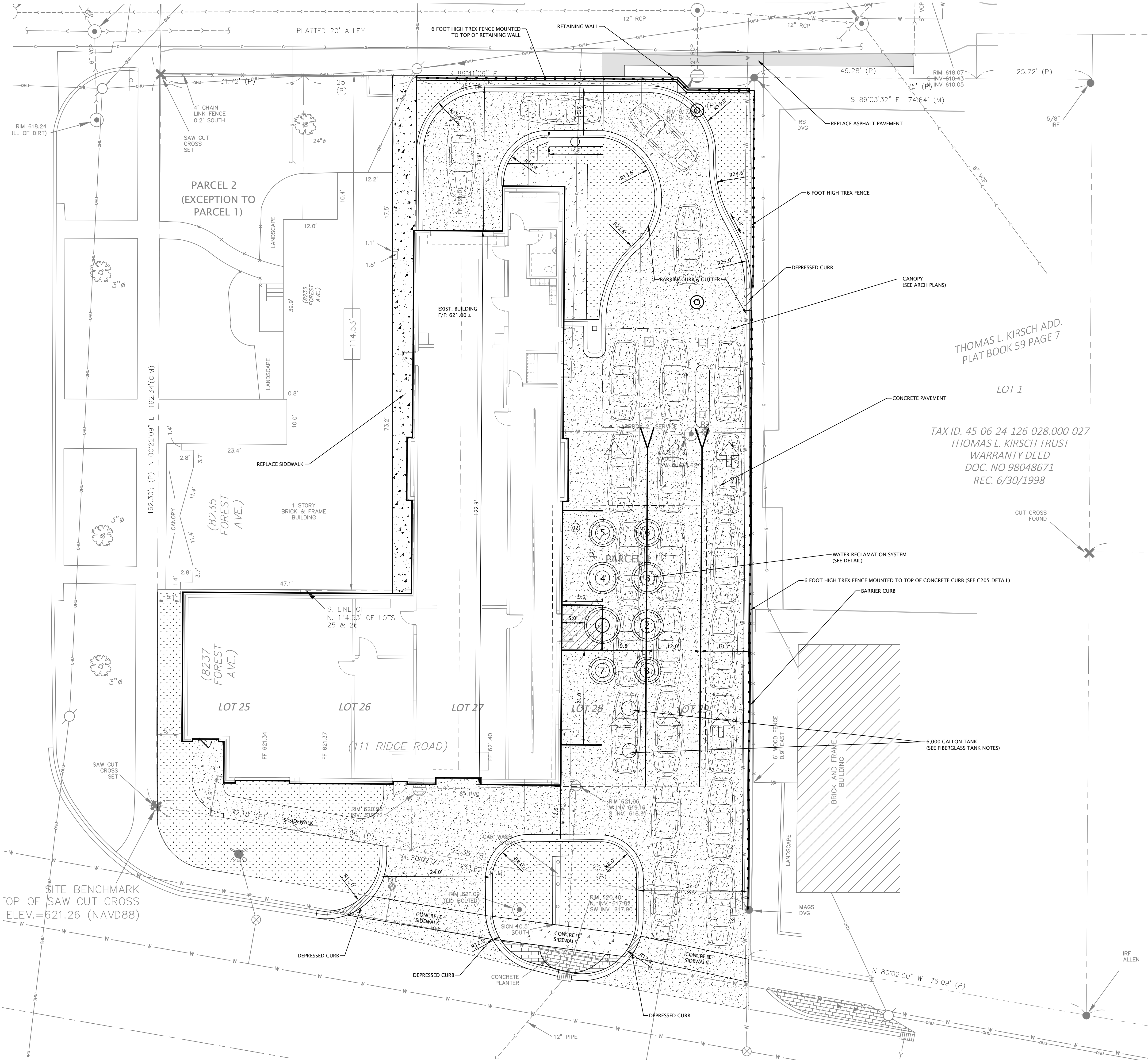
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11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63
Demolition Plan



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DESIGN BY RJP	DATE 08/21/23
PROJECT NO. 22-0538	
C102	



SITE DATA	
• ZONING:	CD-4A (GENERAL URBAN - A CHARACTER DISTRICT)
• BUILDING AREA:	6,295 SQ. FT.
• PARKING SPACES:	02
• IMPERVIOUS SURFACE CALCULATION:	
IMPERVIOUS	0.33 AC (89.20%)
PERVIOUS	0.04 AC (10.80%)
TOTAL (%)	0.37 AC
• FLOOR AREA RATIO CALCULATION:	
FLOOR AREA	6,306.69 SQ.FT.
TOTAL SITE AREA	0.37 AC (16,373.84 SQ.FT.)
FLOOR AREA RATIO	38.52%

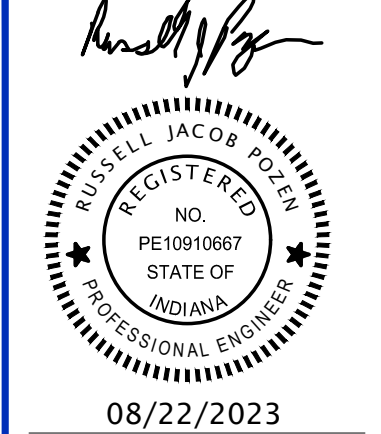
LEGEND	
	4" (MIN) TOPSOIL & SEEDING/LANDSCAPING (SEE LANDSCAPE PLAN)
	CONCRETE SIDEWALK
	CONCRETE PAVEMENT
	ASPHALT PAVEMENT
	BRICK PAVERS
	STRIPING (PAINT, 4" WIDE)
	6-INCH BARRIER CURB
	6-FOOT HIGH TREX FENCE

NOTES

- DIMENSIONING SHALL BE TO FACE OF CURB; RADII SHALL BE BACK OF CURB UNLESS OTHERWISE NOTED.
- DUMPSTER ENCLOSURE IS LOCATED ON THE EAST OF SITE PROPERTY.



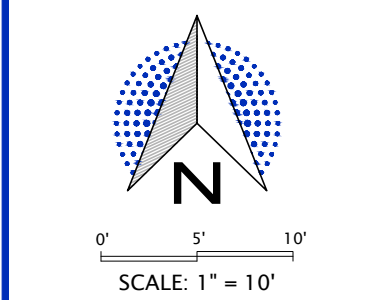
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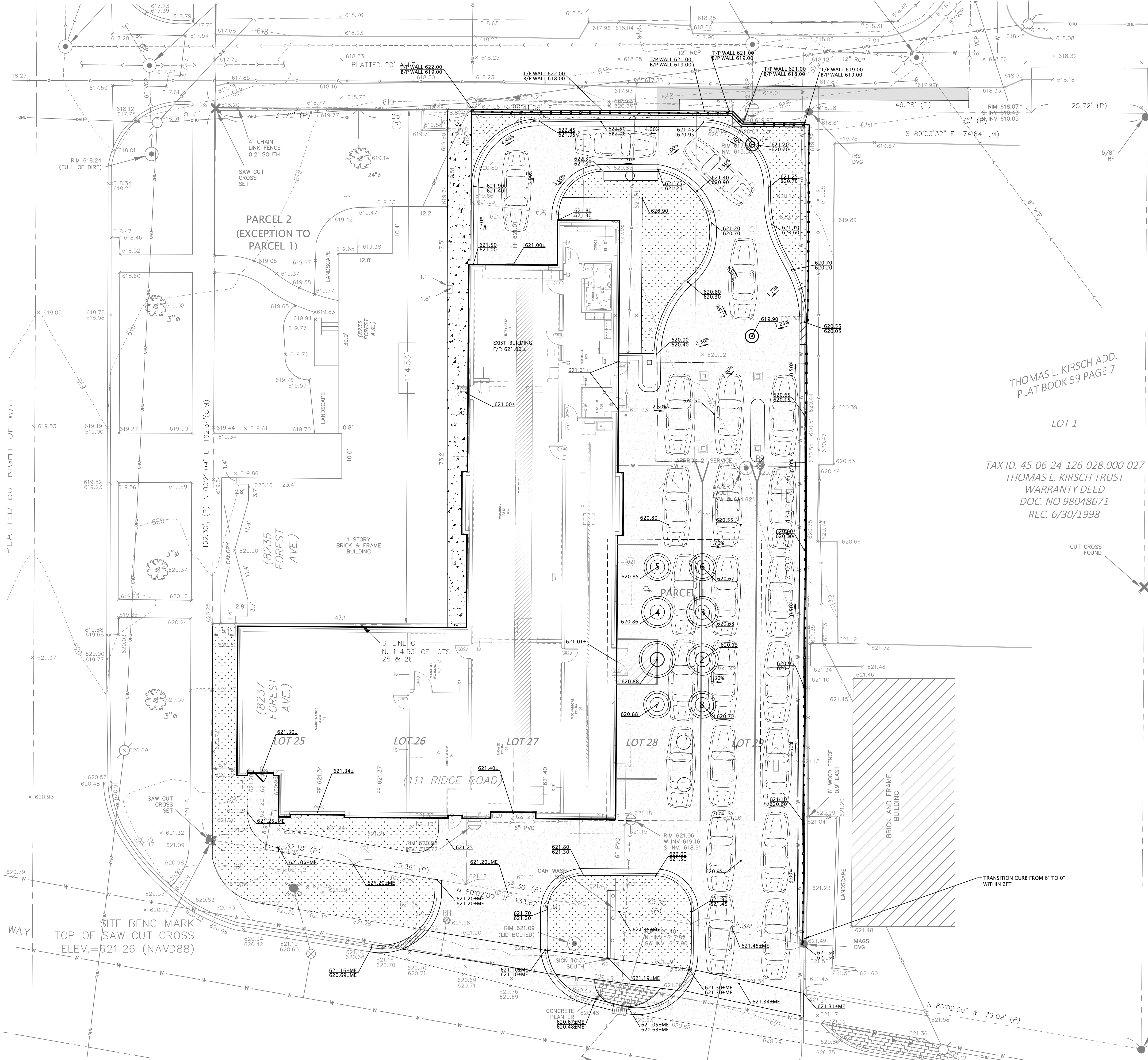
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REVISIONS AND NOTES:	
DATE:	

111 Ridge Road Munster
Crew #63
Site Plan



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C103	



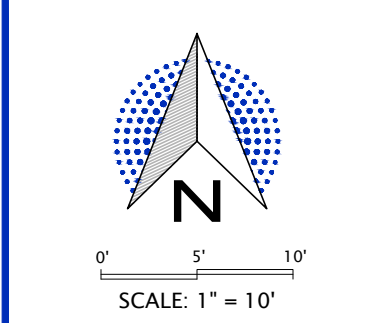
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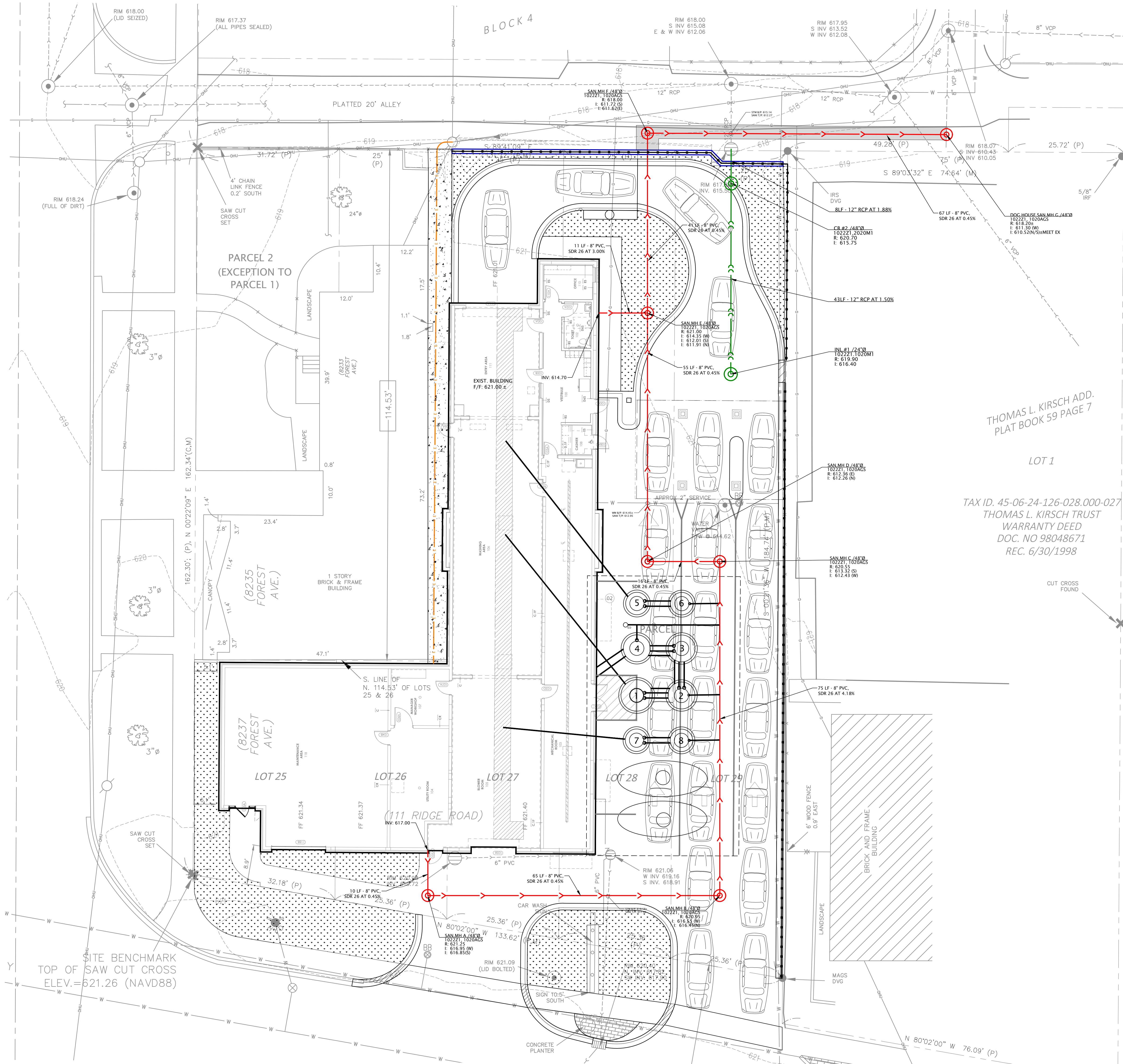
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DATE:	REVISIONS AND NOTES:

**111 Ridge Road Munster
Crew #63**
Grading Plan



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PROJECT NO. 22-0538	
C104	



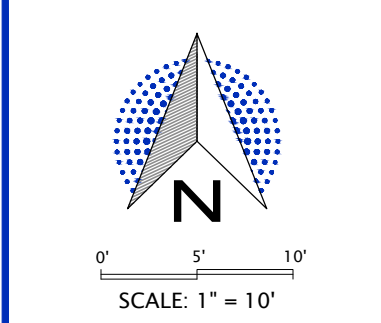
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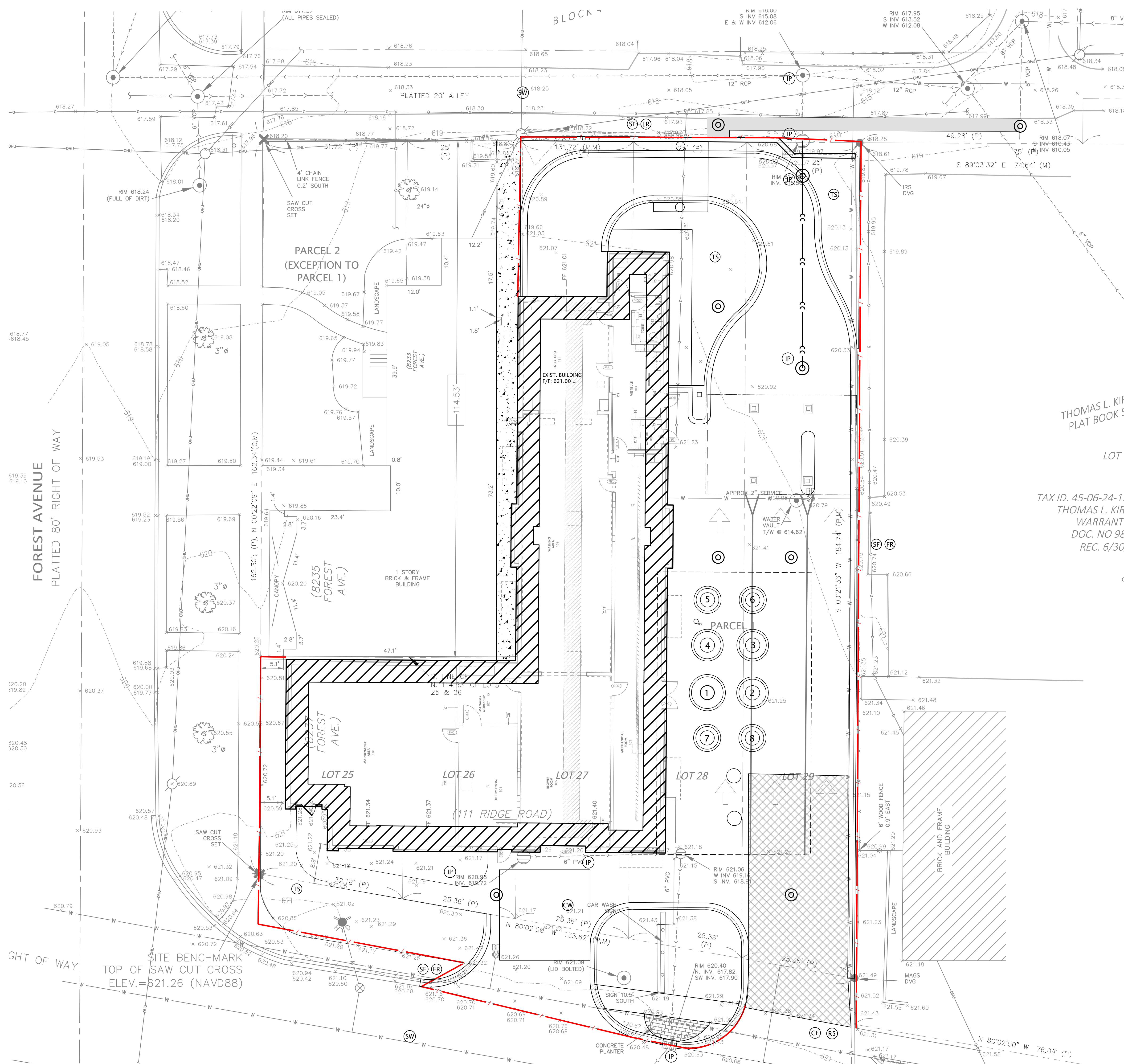
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DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63
Utility Plan



DESIGN BY RJP	DATE 08/21/23
PROJECT NO. 22-0538	
C105	

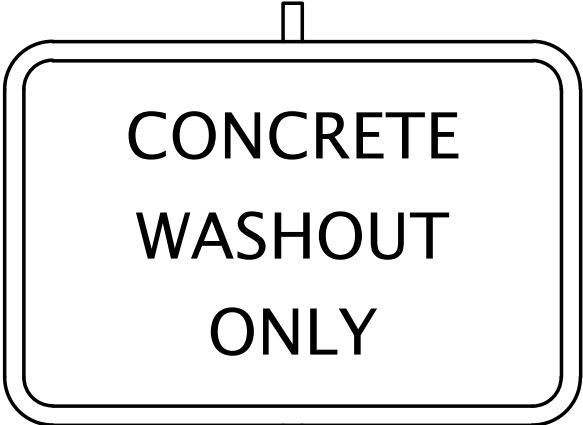


NOTES

1. THE SITE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN DURING DEMOLITION AND CONSTRUCTION ACTIVITIES. MEASURES MUST BE IMPLEMENTED PRIOR TO BEGINNING CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE AND/OR CLEANING TO THE STRUCTURE OR FEATURE. CORRECTIVE WORK INCURRED BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
3. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE S.W.P.P.P. ANY FINES OR PUNITIVE MEASURES INCURRED BY THE PROJECT DUE TO FAILURE TO COMPLY WITH THE S.W.P.P.P. ARE THE RESPONSIBILITY OF THE CONTRACTOR. THESE COSTS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND SHALL NOT BE CONSIDERED AN EXTRA.
4. DURING THE COURSE OF CONSTRUCTION, THE LOCAL ENFORCEMENT OF THE S.W.P.P.P. MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES TO BE INSTALLED TO ADDRESS SITE-SPECIFIC ITEMS NOT ANTICIPATED BY THIS PLAN. THESE ITEMS ARE CONSIDERED AN EXTRA TO THE CONTRACT, BUT ONLY TO THE EXTENT OF INITIAL INSTALLATION. CORRECTIVE WORK AND MAINTENANCE SHALL BE CONSIDERED INCIDENTAL AND SHALL NOT BE CONSIDERED AN EXTRA.
5. THE SITE CONTRACTOR SHALL INSTALL THE CONSTRUCTION ENTRANCE AND PLACE PERIMETER SILT FENCING/FIBER ROLLS PRIOR TO COMMENCING ANY SOIL DISTURBANCE. SEE SITE PLAN FOR LOCATIONS. THE CONSTRUCTION ENTRANCE SHALL SERVE AS SITE ACCESS FOR ALL CONSTRUCTION TRAFFIC INGRESS AND EGRESS TO THE PROJECT SITE.
6. THE SOIL STOCKPILE SHALL BE PROTECTED BY SILT FENCE/FIBER ROLLS SURROUNDING THE PILE AND THE PILE SHALL BE TEMPORARILY SEEDDED IF THE STOCKPILE REMAINS DORMANT FOR GREATER THAN 7 DAYS. THE PILE SHALL BE STABILIZED WITHIN 14 DAYS.
7. DURING SOIL-DISTURBING ACTIVITIES, THE CONTRACTOR SHALL CREATE DIVERSION SWALES AND INSTALL DITCH CHECKS SO THAT ALL SITE RUNOFF PASSES THROUGH AN EROSION CONTROL MEASURE PRIOR TO BEING DISCHARGED OFF-SITE.
8. UPON COMPLETION OF THE ROUGH GRADING, ALL AREAS AFFECTED BY CONSTRUCTION SHALL BE TEMPORARILY SEEDDED IF THEY WILL REMAIN DORMANT FOR GREATER THAN 7 DAYS. THESE AREAS SHALL BE STABILIZED WITHIN 14 DAYS OF REMAINING DORMANT AND EROSION CONTROL BLANKETS SHALL BE INSTALLED ON SIDE SLOPES AS SHOWN ON THE PLANS.
9. CONTRACTOR SHALL PERFORM STREET SWEEPING WHENEVER TRACKING OF MUD, DIRT, AND CONSTRUCTION DEBRIS OCCURS ON THE PUBLIC ROAD.

LEGEND

- CE TEMPORARY CONSTRUCTION ENTRANCE
- IP INLET BARRIER PROTECTION
- TS TEMPORARY/PERMANENT SEEDING
- SF (FR) SILT FENCE/FIBER ROLLS (MAY BE USED INTERCHANGEABLY WHERE REQUIRED)
- SW STREET SWEEPING
- CW CONCRETE WASHOUT
- RS BUILDING & STORMWATER PERMITS

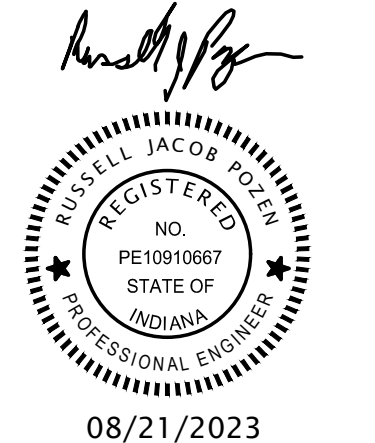


CONCRETE WASHOUT SIGNAGE

TOTAL DISTURBANCE
AREA = 0.42 ac



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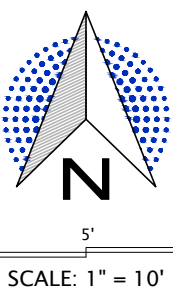


08/21/2023

Crew Carwash
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DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63
Storm Water Pollution Prevention Plan



DESIGN BY RJP	DATE 08/21/23
PROJECT NO. 22-0538	
C106	

SITE DEVELOPMENT
COMMON EXCAVATION AND EARTHWORK
GENERAL SPECIFICATIONS

A Geological Investigation report by the OWNER shall be considered a part of this plan set.

1.0 Quality Assurance:

- Contractor shall notify the Construction Manager, Architect, Engineer and testing laboratory inspector when common excavation and earthwork is scheduled. Earthwork operations which require inspecting and testing by testing laboratory inspector shall not be performed unless testing laboratory inspector is present.
- Contractor shall provide a 1-year warranty against settlement and damage caused by settlement for common excavation and earthwork.
- If settlement occurs within 1 year after the date of Substantial Completion, the Contractor shall remove the affected surface feature, provide additional suitable fill, thoroughly compact and restore the surface feature to its original undisturbed condition.

2.0 Testing:

- An inspector from the Owner's soils testing laboratory shall, during the common excavation work operations, provide the following services:
 - Test & Classify on-site excavated soils for reuse as topsoil, common site fill, embankment fill and structural fill.
 - Test materials furnished from any off-site sources to verify compliance with specified requirements.
 - Observe proofing rolling of exposed subsoil in areas where grades will be raised and provide recommendations for soil correction to ensure that unstable materials have been removed.
 - Inspect placement and compaction of common site fill, embankment fill and structural fill to ensure the material being compacted is in accordance with specified requirements. For each lift, a minimum of 1 density test for every 10,000 square feet of lawn surface area, and 5,000 square feet of paved surface area, and 500 square feet of proposed building area is required.
 - Density tests are required for all subgrade/subsoil in areas that have been cut to rough grade elevations, after soils have been compacted to ensure soil compaction density is in accordance with the specified requirements. Test frequency shall be as described above in sub-paragraph 1 d..
- Tests and analysis of fill materials shall be performed in the laboratory in accordance with ASTM D1557.
- Testing shall be performed as directed by the Soils Report Engineer. Compaction Testing shall be performed in accordance with ASTM D2922 and D3017.

3.0 Special Weather Protection:

- Construction shall be limited during cold weather to prevent the formation of frost and snow accumulation to occur in materials used for site fill or in soils where site excavation is taking place. All areas that are scheduled for excavation activity shall be protected from freezing and snow accumulation. Any frozen material shall be removed and disposed of off site.

4.0 Clearing & Grubbing:

- Contractor shall provide all clearing, grubbing, removal and disposal of all vegetation and debris related to the existing site conditions.
- Vegetation debris shall be removed from site and transported to a local and state authorized disposal sites.

5.0 Top Soil Stripping:

- The project has a depth of topsoil variation throughout the site. The geotechnical report shows the topsoil depths at several locations throughout the project site. The Contractor shall strip and stockpile all topsoil at the location designated in the Site Development Drawings or as directed by the owner.
- Topsoil removal material shall consist of fertile, friable, organic surface soil stripped from the site and shall be free of subsoil, brush, turf grasses, weeds, roots, stumps, stones larger than 1-inch in diameter and other contaminated matter."
- Topsoil shall be stockpiled so that it may be reused and re-spread on site over Lawn and Landscaped areas.
- The topsoil stockpile area shall be properly protected against soil erosion into the adjacent drainage system.

6.0 Borrow Material/Embankment & Structural Fill Material:

- Borrow material for structural fill shall be first excavated from on site source locations as defined by the Soils Report Engineer.
- Structural fill material shall be placed under all utility trench corridors, building pad locations, paved parking, driveway, sidewalk and roadway areas.
- Common site and embankment fill shall be placed under lawn, landscape and detention pond areas.
- Maintain moisture content of structural fill within plus or minus 3 percent of the optimum moisture content as determined by the Modified Proctor Test.
- Contractor shall provide subgrade conditions meeting the design grades for pavements, exterior walks, curbs and building pads.
- Contractor shall only place approved fill material under proposed building pads and parking areas
- Contractor shall undercut any areas that do not meet the requirements for structural fill and shall replace with structural fill.

7.0 Excavation:

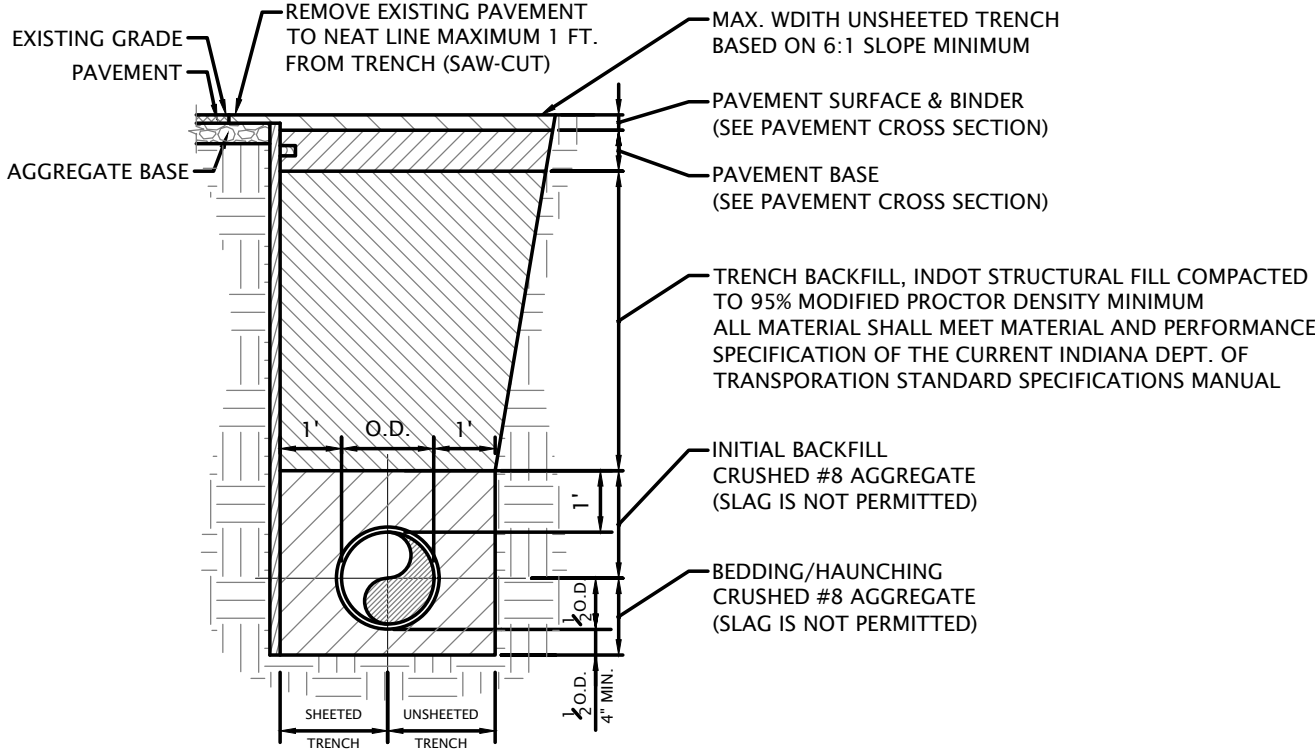
- Protect all existing natural features on site.
- Install soil erosion prevention measures in accordance with local and state ordinances and in accordance with the soil erosion control project drawings.
- All proposed contours shown on this set of plans are proposed surface elevation. All fill shall be placed as structural fill for buildings and parking lots.
- Prior to excavation an on-site Pre-construction Meeting shall be held between the Engineer, Owner/Owner's Representative and General Contractor to discuss earthwork protocol.
- During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if ordinarily encountered at the site, the party discovering such conditions shall promptly notify the Owner/Owner's Representative/General Contractor and the Engineer in writing of the specific differing conditions. Upon written notification, the Engineer and Owner/Owner's Representative/General Contractor will investigate the conditions, and determine if adjustments to the Construction Documents and/or to the Contract are warranted. No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice of a changed condition.

8.0 Compaction:

- Exercise care when compacting exposed soils relative to water table, rain or other moisture conditions.
- Maintain moisture content of embankment material and structural fill material near optimum as recommended by the soils testing laboratory and Soil Boring Engineer. Maintain optimum moisture content of backfill and fill material to attain the required compaction density.
- Backfill common site fill, embankment fill, structural fill and utility trenches to contours and elevations defined on the project site development plans.
- Systematically backfill to allow maximum time for optimum compaction and do not backfill over porous, wet or spongy subgrade surfaces.
- Employ a soils placement and compaction method that does not disturb or damage work performed and that maximizes soil compaction.
- All common site, embankment and structural fill shall be place and compacted in continuous layers/lifts not exceeding 8-inches loose depth.
- Compact subsoil for structural fill to 95% of the Modified Proctor Maximum Dry Density (ASTM D1557) beneath all building pad locations.
- Compact subsoil for structural fill to 95% of Modified Proctor Maximum Dry Density (ASTM D1557) beneath all pavement areas and utility corridor trenches.
- Compact subsoil for common site fill and embankment fill to 90% of the Modified Proctor Maximum Dry Density (ASTM D1557) beneath all lawn, landscape and detention pond areas.
- Compact subsoil under building pad area to achieve soil-bearing capacities of 3,000 psf at a distance of 4-feet below the proposed finish floor elevations of all building ads.
- If tests indicated work does not meet specified requirements, all sub-standard work shall be immediately removed, replaced and retested at no expense to the Owner.

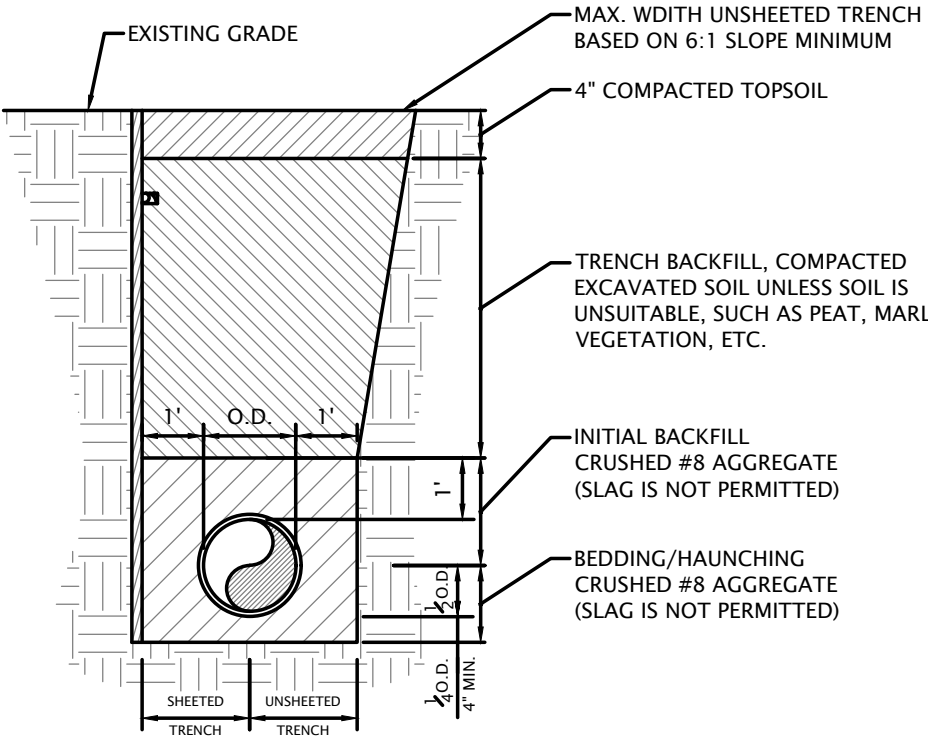
GENERAL NOTES

- Town of Munster, DVG Team, Inc. (Engineer) and any Utility Company affected must be notified at least two working days prior to commencement of work. Prior to construction the contractor is to call INDIANA 811.
- Elevation Datum is U.S.G.S.
-
- The locations of existing underground utilities, such as water mains, sewer, gas lines, etc., as shown on the plans have been determined from the best available information and is given for the convenience of the contractor. However, the engineer and the owner do not assume responsibility for the accuracy of the locations shown. It shall be the responsibility of the contractor to contact all utility companies and their facilities shall be located prior to commencement of any work.
- Wherever obstructions not shown on the plans are encountered during the progress of the work and interfere to such an extent that alteration in the plans is required, the engineer shall be notified prior to any changes and any changes shall only be as approved via written instruction by the Engineer and the local Municipal Engineer.
- As-built drawings shall be prepared by the contractor and submitted to the engineer as soon as the project is completed. Any change in the length, location or alignment shall be shown in red. "AS BUILT" drawings shall be forwarded to the appropriate utility organizations. Four (4) copies shall be submitted to the Municipal Engineer.
- All proposed sanitary sewer, storm sewer, water main and service lines under and within 2' of pavement, curbs, and sidewalk shall be backfilled with crushed limestone (INDOT #53) or material consistent with Class I or II material as described in ASTM D2321 placed in 8" maximum layers and mechanically compacted to 95% modified proctor density. Slag is not permitted.
- Materials used for water, sanitary sewer, storm sewer and streets shall conform to the Town of Munster standards and specifications.
- Any existing public improvements (sidewalks, curb and gutter, etc.), disturbed during construction shall be replaced in kind, or per current of Town of Munster specifications as directed by the Municipal Engineer.
- All public street construction shall meet performance standards of the current edition of the Indiana Department of Transportation Standard Specifications.
- Street signage shall be included in accordance with the MUTCD requirements applicable at the time of construction.
- The Owner/General Contractor shall be responsible for any and all utility new customer form submissions. Utility company review typically cannot begin until all new customer forms have been submitted.



PIPE BEDDING/TRENCH BACKFILL
(NOT TO SCALE)

FOR TRENCH IN PAVEMENT AREAS



PIPE BEDDING/TRENCH BACKFILL
(NOT TO SCALE)

FOR TRENCH IN GRASS/LANDSCAPED AREAS



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06/30/2023

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Crew #63
Construction Details

NO SCALE

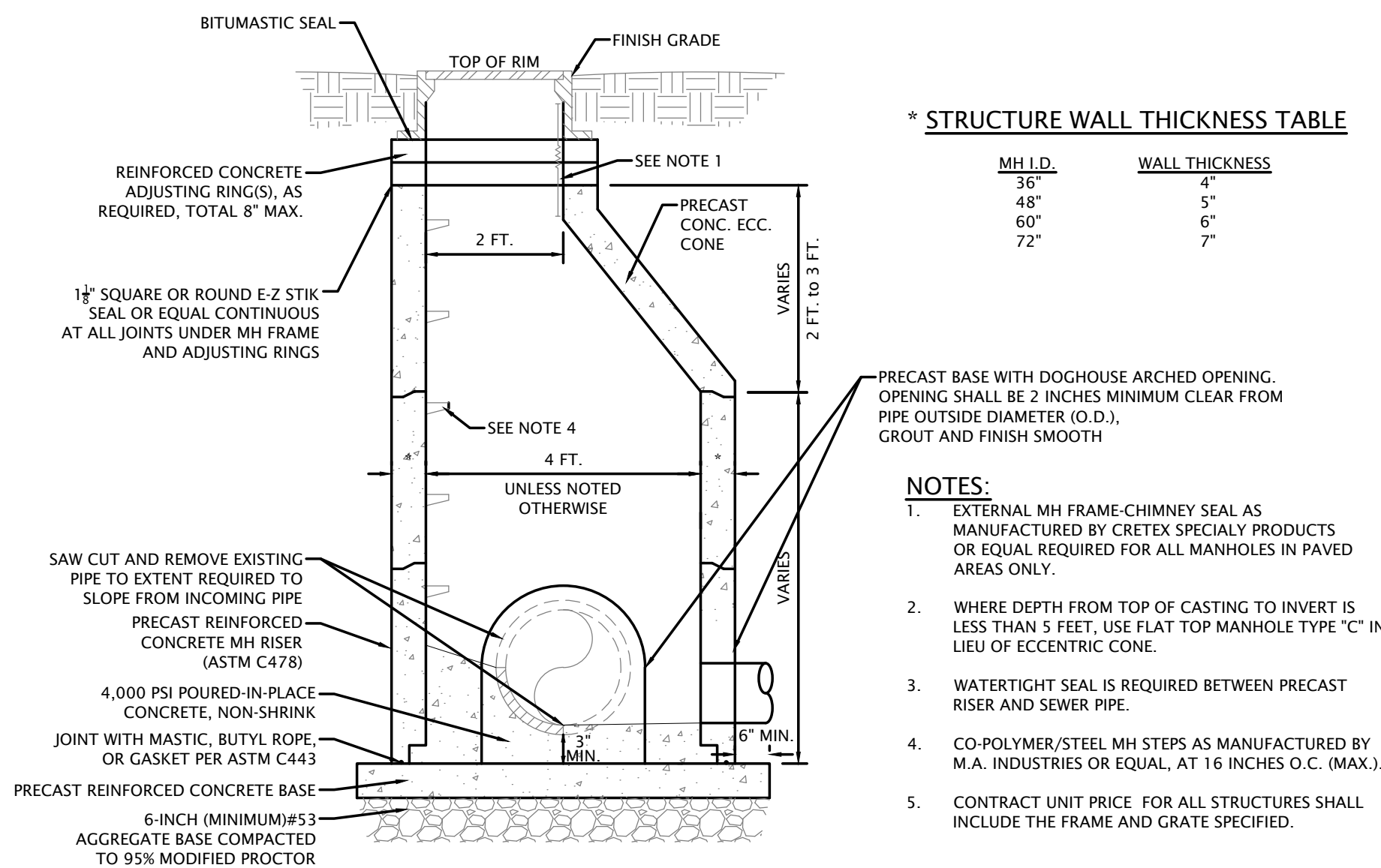
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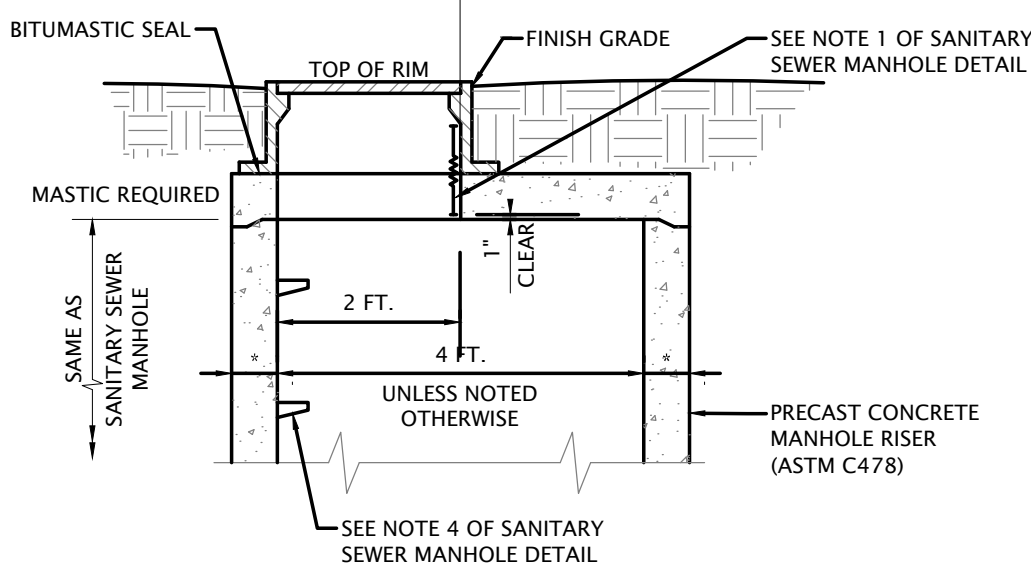
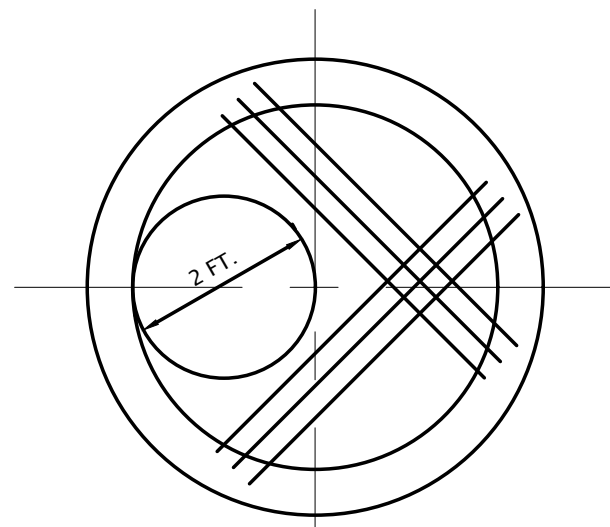
PROJECT NO.
22-0538

C201

1. All Floor Drains shall discharge to the sanitary sewer.
2. Sanitary sewer pipe shall be PVC (SDR 26) ASTM D-3034 with push-on rubber gasket joints and shall be in accordance with ASTM C-3212, unless otherwise noted on the plans for portions to be in PVC (SDR 21).
3. All sanitary sewer manholes shall be air tested for leaks in accordance with ASTM C1244-93 and Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test.
4. Where ductile iron pipe is used for sanitary sewer, the pipe shall be in accordance with ANSI A-21.51 and the joints in accordance with ANSI A-21.11.
5. A deflection test shall be performed on each flexible pipe following the elapse of thirty (30) days after the placement of the final backfill. No pipe shall exceed a deflection of five percent (5%) or greater. The diameter of the rigid ball or mandrel used for a deflection test shall be no less than ninety-five percent (95%) of the base inside diameter of the pipe to be tested dependent on what is specified in the corresponding ASTM standard. The test shall not be performed with the aid of a mechanical pulling device.
6. A leakage test shall be performed using one of the following leakage test types.
 - a.) 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.
 - b.) An air test shall conform to ASTM F1417-92, Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air, for plastic pipe.
7. All sanitary sewer shall be inspected by [MUNICIPALITY'S PUBLIC WORKS OR WASTEWATER DEPARTMENT].

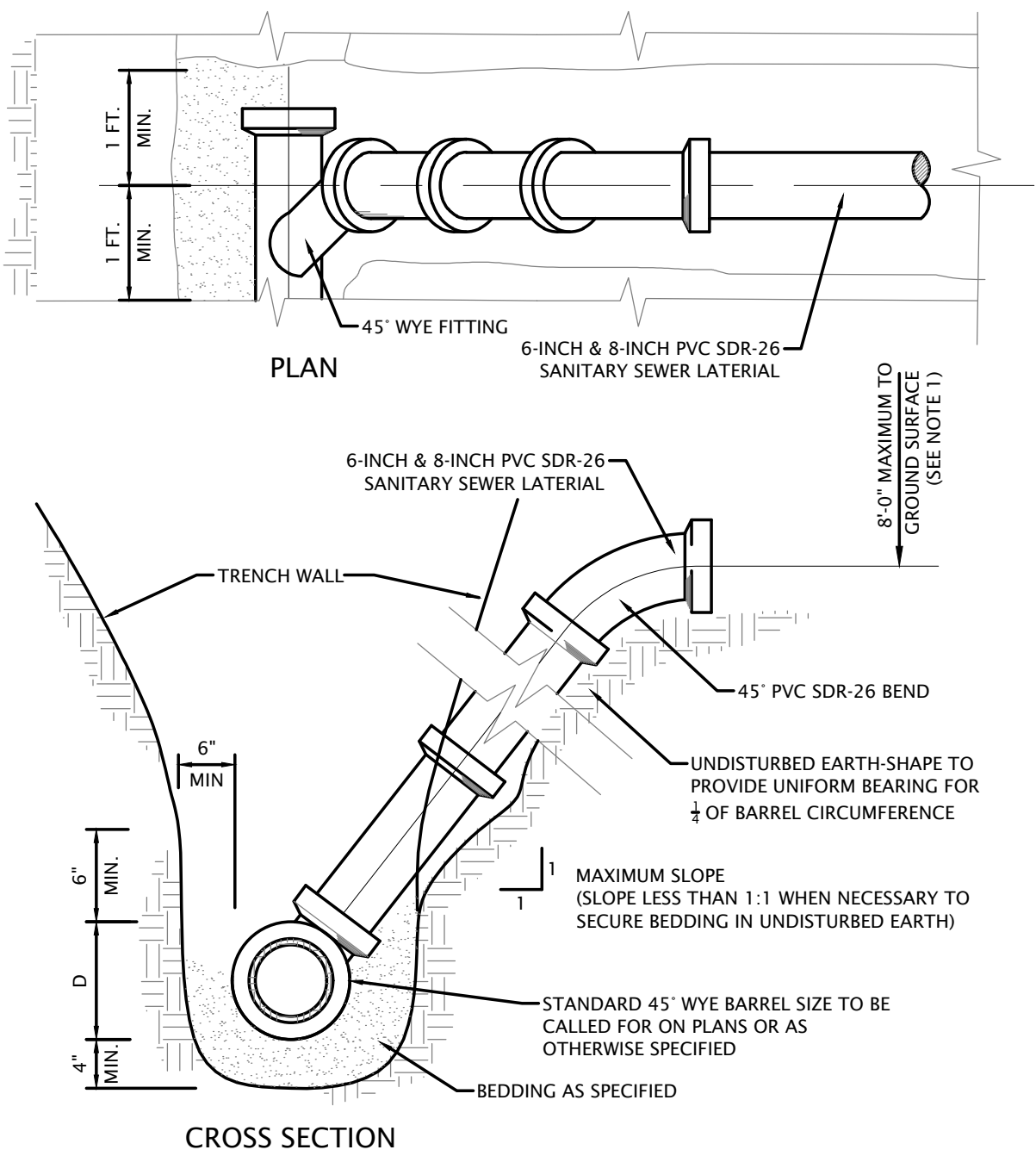


INLET MANHOLE (IMH) USES AN OPED LID - SEE STORM CALLOUT FOR FRAME & LID TYPE
MANHOLE (MH) USES A CLOSED LID - SEE STORM CALLOUT FOR FRAME & LID TYPE.



(NOT TO SCALE)

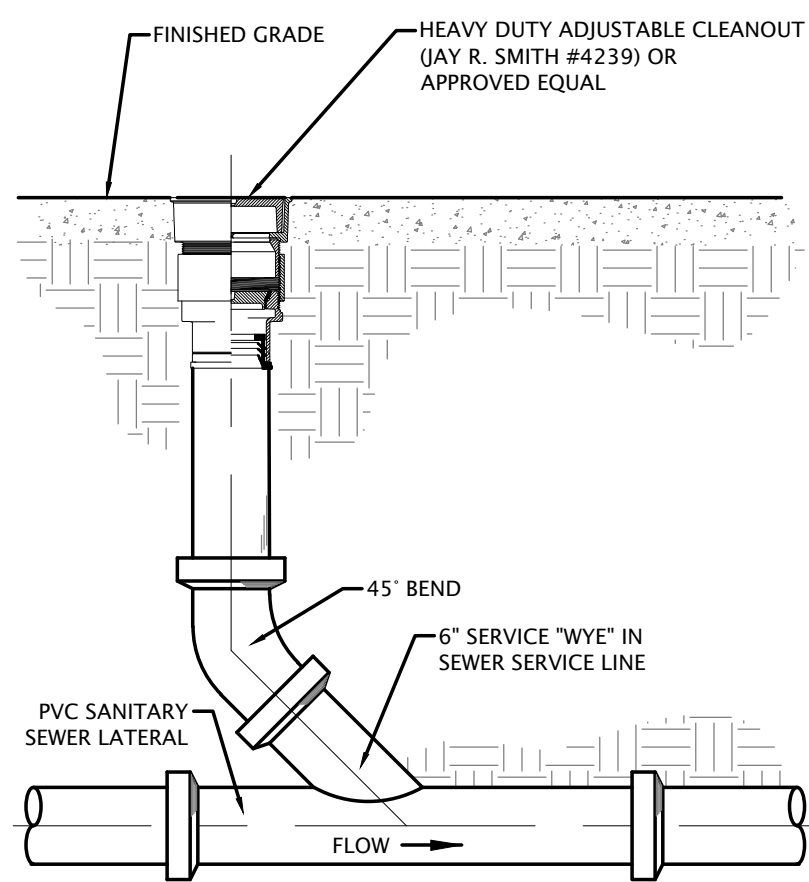
USED WHERE RESTRICTED HEAD ROOM WILL NOT ALLOW FOR TAPERED WALLS
SEE SANITARY MANHOLE NOTES



NOTES:

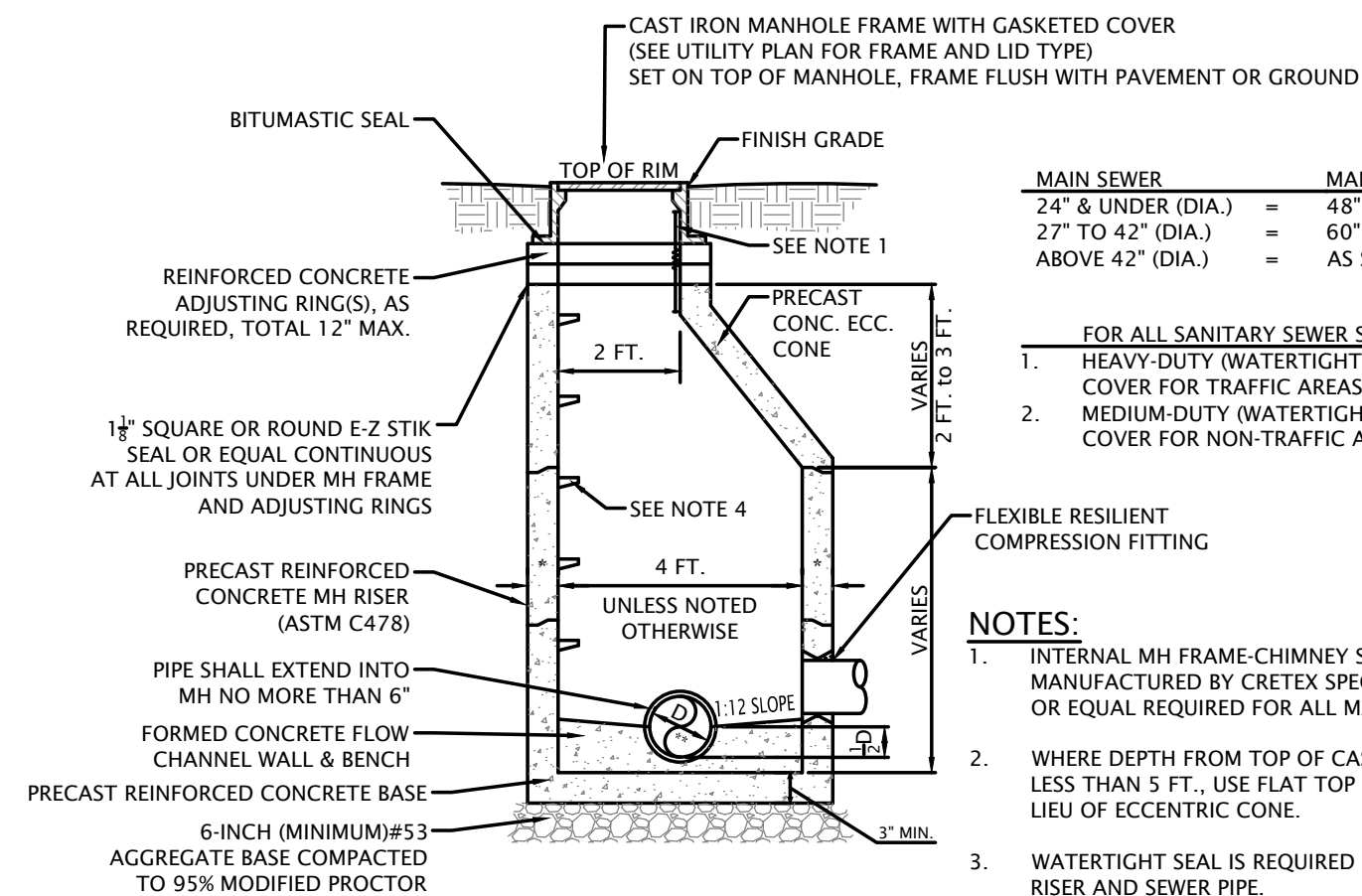
1. RISERS TO BE CONSTRUCTED IN LIEU OF WYES WHERE SEWER DEPTH EXCEEDS 10 FEET. FOR PIPE MATERIAL AND CONCRETE, SEE SPECIFICATIONS.
2. ALL SANITARY SEWER SERVICE LATERALS SHALL BE PLUGGED WITH A WATERTIGHT CAP AND SHALL BE LOCATED WITH 4-INCH x 4-INCH WOOD MARKERS TO IDENTIFY LATERAL END.

(NOT TO SCALE)



(NOT TO SCALE)

CLEANOUT REQUIRED 2' TO 5' FROM BUILDING AND AT 100' INTERVALS ALONG SEWER SERVICE, AS MEASURED FROM SEWER MAIN

* MANHOLE WALL THICKNESS TABLE

<u>MH I.D.</u>	<u>WALL THICKNESS</u>
48"	5"
60"	6"
72"	7"

- | MAIN SEWER | | MANHOLE |
|--------------------|---|------------|
| 24" & UNDER (DIA.) | = | 48" (DIA.) |
| 27" TO 42" (DIA.) | = | 60" (DIA.) |
| ABOVE 42" (DIA.) | = | AS SPEC. |

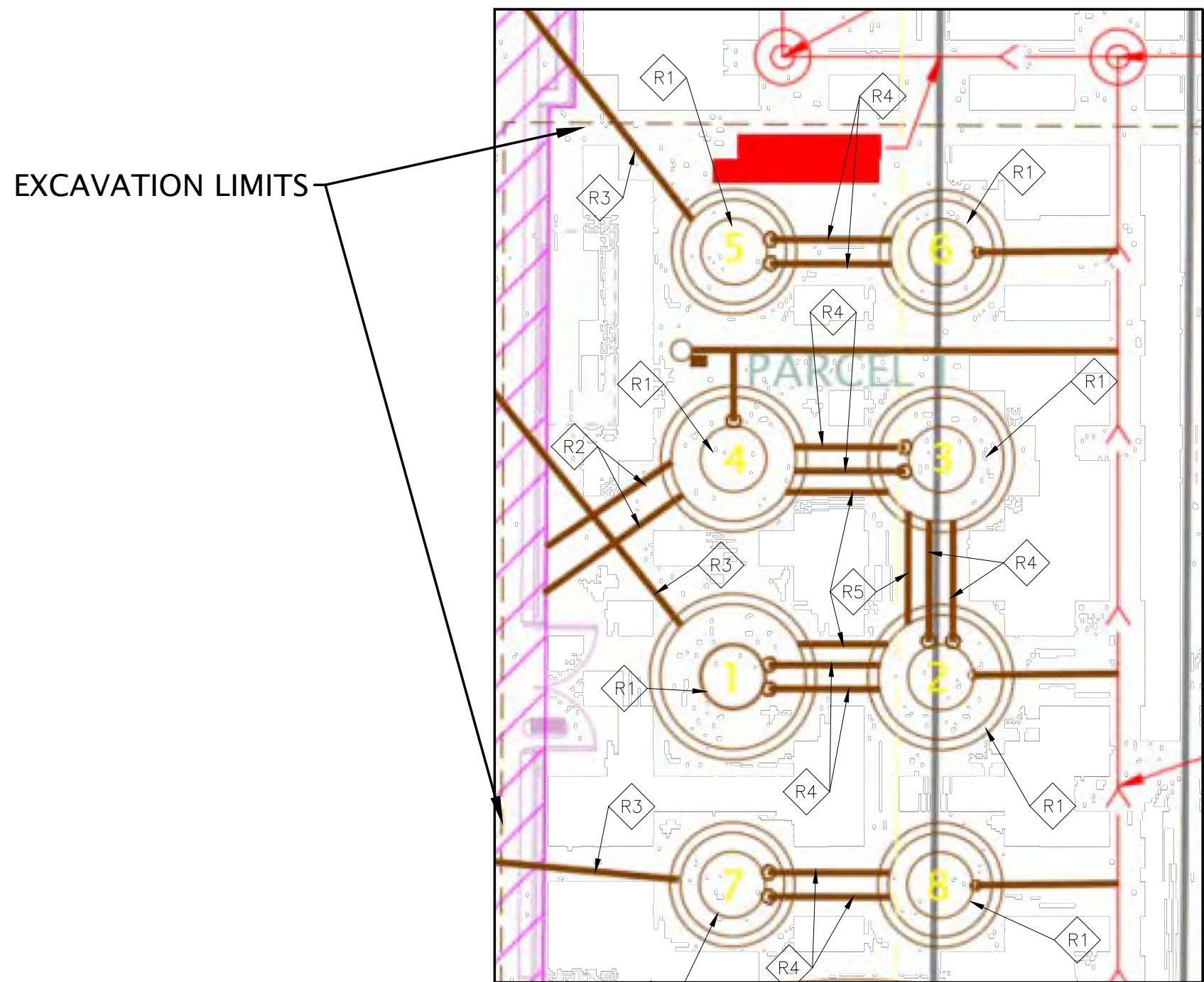
FOR ALL SANITARY SEWER STRUCTURES

1. **HEAVY-DUTY (WATERTIGHT) FRAME & COVER FOR TRAFFIC AREAS.**
2. **MEDIUM-DUTY (WATERTIGHT) FRAME & COVER FOR NON-TRAFFIC AREAS.**

NOTES:

1. INTERNAL MH FRAME-CHIMNEY SEAL AS MANUFACTURED BY CRETEX SPECIALTY PRODUCTS OR EQUAL REQUIRED FOR ALL MANHOLES.
2. WHERE DEPTH FROM TOP OF CASTING TO INVERT IS LESS THAN 5 FT., USE FLAT TOP MANHOLE TYPE IN LIEU OF ECCENTRIC CONE.
3. WATERTIGHT SEAL IS REQUIRED BETWEEN PRECAST RISER AND SEWER PIPE.
4. CO-POLYMER/STEEL MH STEPS AS BY M.A. INDUSTRIES OR EQUAL, AT 16" O.C. (MAX.)
5. CONTRACT UNIT PRICE FOR STRUCTURES SHALL INCLUDE THE FRAME AND GRATE SPECIFIED.

★★ FOR PIPE SIZES RANGING FROM 8" TO 30" IN DIAMETER



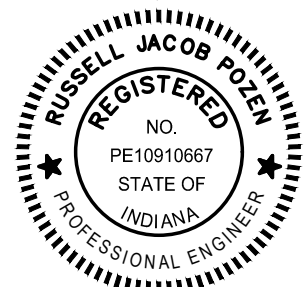
WATER RECLAIM SYSTEM KEYNOTE LEGEND

1	ACCESS RISER AND OPERATING 36" DIAMETER STEEL PLATE LID, MODEL PER OWNER SPECIFICATIONS. STRUCTURE TOP TO HAVE A 36" DIA OPENING CAST.
2	8" PVC SCH 40 TO RECLAIM PIT
3	8" PVC SCH 80 CONVEYOR TRENCH DRAIN. CONVEYOR TRENCH DRAINS MUST BE RUN STRAIGHT WITH NO TURNS
4	8" PVC CONNECTOR TO SLEEVES, REFER TO TABLE FOR INVERT ELEVATIONS
5	4" PVC CONNECTOR TO SLEEVES, REFER TO TABLE FOR INVERT ELEVATIONS

NOTE: REFER TO STRUCTURAL PLAN FOR CONNECTION INTO TUNNEL TRENCH

(NOT TO SCALE)

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06/30/2023

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Fishers, IN 46037

DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63

Construction Details

NO SCALE

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DESIGN BY DVG	DATE 05/19/23
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PROJECT NO.

22-0538

C202

WATERMAIN GENERAL NOTES

- All water mains, fittings, and valves shall be ductile iron cement lined pressure class 350 with rubber gasket push-on joints in accordance with ANSI A-21.51 & AWWA C 151 and be Polyethylene Encased per IAC 8-3.2-8. Water main joints shall conform to the requirements of AWWA C 111. Mechanical joints shall be restrained and shall use Meg-A-Lug as manufactured by EBAA Iron Sales (or equal). Watermain may be PVC C900, DR 18 only if noted on the plans.
- Water mains shall be laid at least 10' horizontally from any existing or proposed sanitary sewer, storm sewer, sewer manhole, drain or service connection as measured from outside edge of the water main to outside edge of the sewers or manhole. If local conditions prevent horizontal separation of 10 feet, then the SEWER SHALL BE CONSTRUCTED OF WATER MAIN QUALITY REQUIREMENTS as specified in the IAC 8-3.2 Sections 8, 9 and 17(a).
- When water mains cross any existing or proposed sanitary or storm sewers (sewers), there shall be at least 18 inches vertical separation between the outside edge of the water main and the outside edge of the sewer. This shall be the case where water mains cross above or below sewers. This crossing must be at a minimum angle of forty-five (45) degrees measured from the centerline of each. All these conditions specified shall be maintained for a minimum distance of ten (10) feet from either side of the water main. If vertical separation specified herein cannot be met, then the SEWER SHALL BE CONSTRUCTED OF WATER MAIN QUALITY REQUIREMENTS as specified in the IAC 8-3.2 Sections 8, 9 and 17(a).
- For additional separation requirements between water mains and sewers, the Contractor shall refer to the Indiana Administrative Code 327 IAC 8 and IAC 3.
- All water main shall be installed in accordance with IAC 8-3.2-17. The contractor shall provide pressure and leak testing results conforming to IAC 8-3.2-17(a).
- All water main shall be disinfected in accordance with IAC 8-3.2-18.
- Water services shall be installed as required at the time of individual lot development. Service sizes to be determined by building requirements.
- Water services shall have an outside shut-off valve located per the direction of the Municipal Utility Director. Separate services and shut-offs are required for domestic service and fire protection.

RESTRAINED PIPE LENGTH
(FEET)

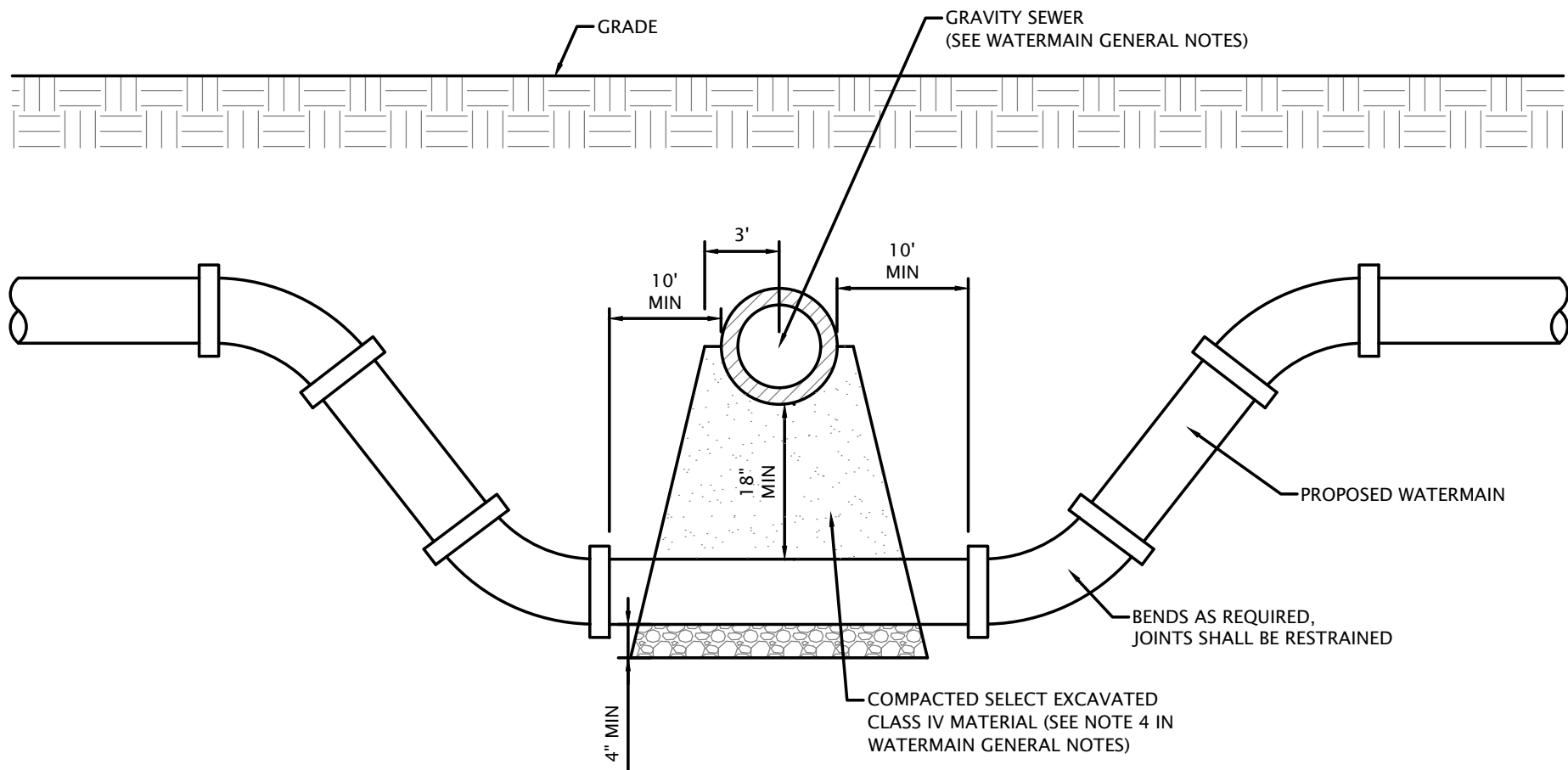
PIPE SIZE (INCHES)	TEE* BRANCH	90° ELBOW	45° ELBOW	22 1/2° ELBOW	11 1/4° ELBOW	DEAD ENDS
4	0	15	6	3	2	20
6	9	22	9	4	2	28
8	18	27	11	5	3	37
10	25	33	14	7	3	44
12	33	39	16	8	4	52
14	41	44	18	9	4	60
16	48	50	21	10	5	68
18	56	55	23	11	5	75
20	63	61	25	12	6	82
24	77	71	29	14	7	96
30	97	86	36	17	8	116
36	116	100	41	20	10	135

* ONE FULL LENGTH (18') OF PIPE ON BOTH SIDES OF BRANCH TO BE RESTRAINED.

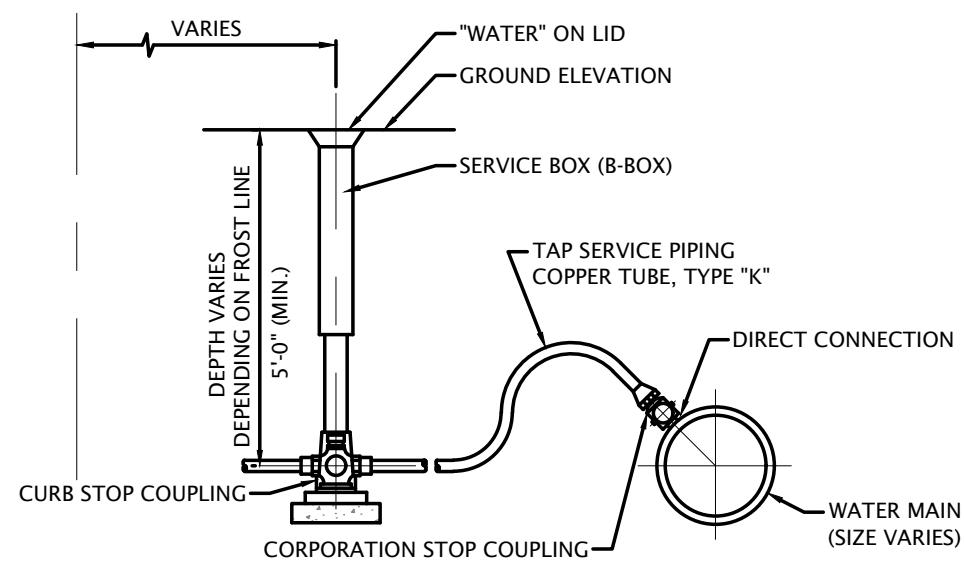
INCREASE ALL LENGTHS IN TABLE BY 75% FOR USE ON POLYETHYLENE WRAPPED DUCTILE IRON PIPE OR PVC PIPE.

TEST PRESSURE BASED ON 150 PSI.

RESTRAINED PIPE LENGTH TABLE



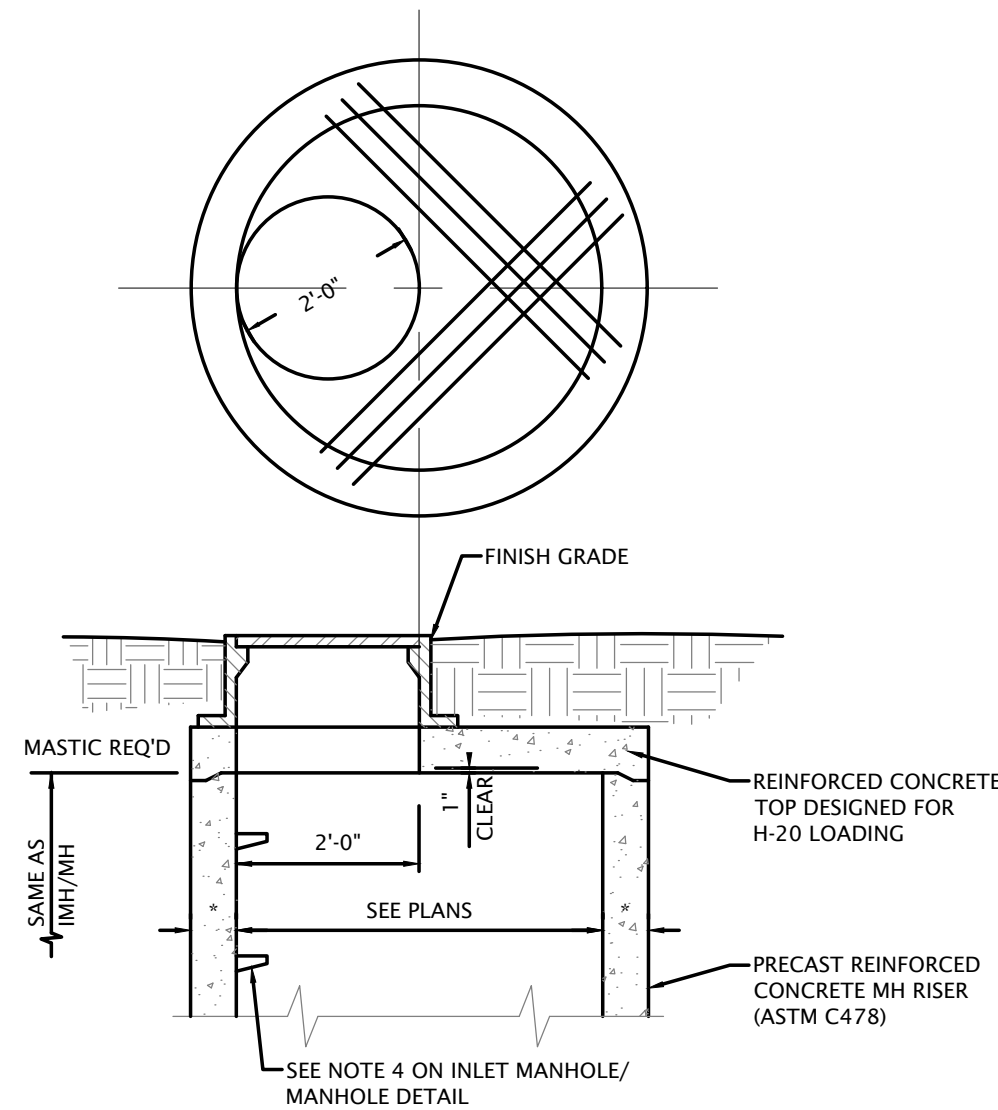
SANITARY/STORM SEWER & WATERMAIN CROSSING
(NOT TO SCALE)



TYPICAL B-BOX & TAP SERVICE PIPING
(NOT TO SCALE)

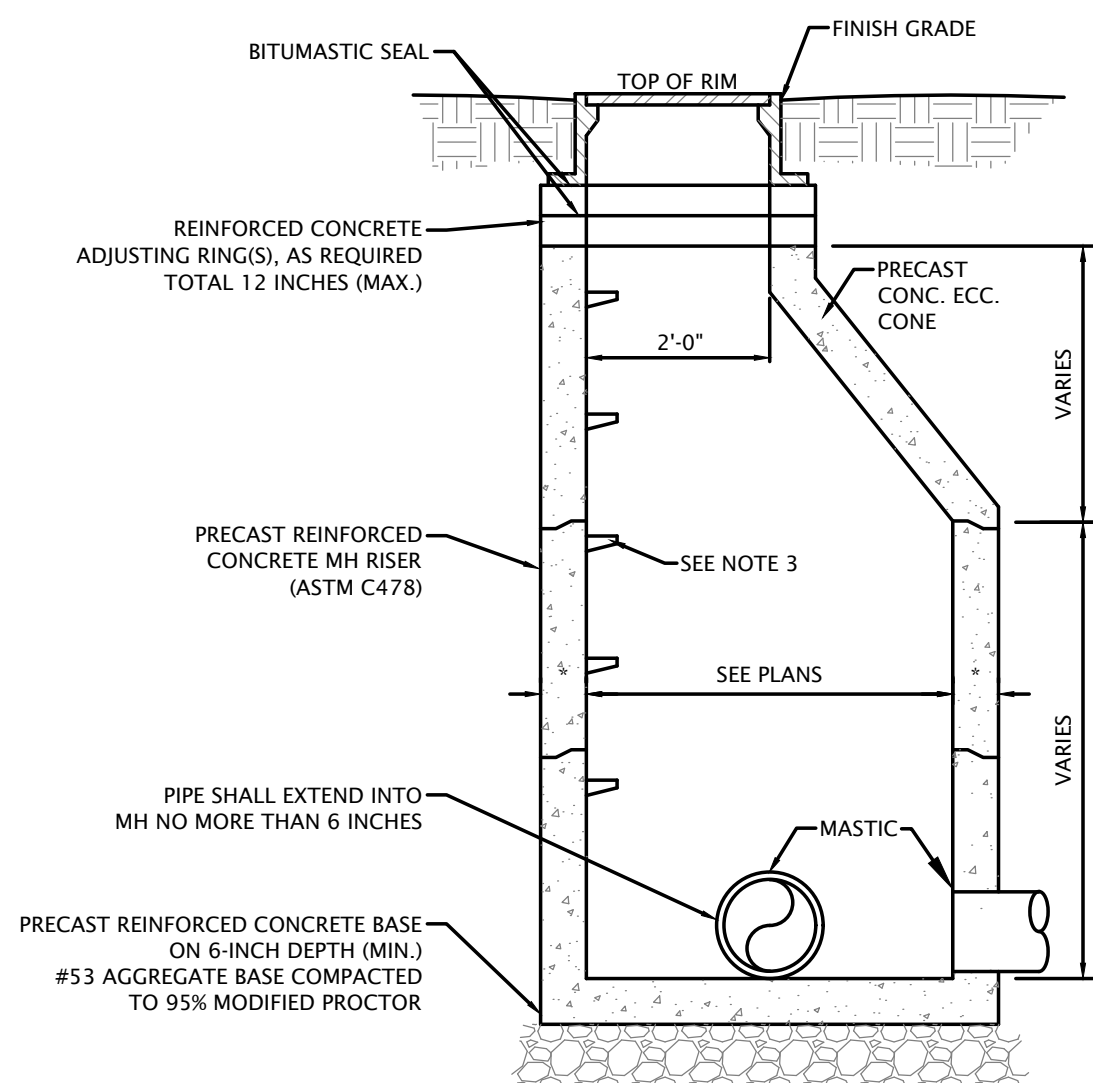
STORM SEWER GENERAL NOTES

- Footing drains, sump pump drains and outside drains shall discharge to the storm sewer where storm sewer is provided.
- The maximum allowable rate of infiltration or exfiltration shall not exceed 100 gallons, per 24 hours per inch-diameter per mile of sewer pipe.
- Storm sewers shall be as noted on the plans. If approved by the Engineer, an alternative storm sewer pipe 12 inches and larger can be reinforced concrete minimum Class III, wall B conforming to ASTM C-76; Corrugated High-Density Polyethylene Pipe with smooth interior (ADS N-12) conforming to AASHTO M-294; Corrugated Polypropylene Pipe with smooth interior conforming to AASHTO M-330 (ADS HP STORM); Corrugated High-Density Polyethylene Pipe with smooth interior (PRINSCO, GOLDFLO) conforming to AASHTO M-294 or other INDOT, Type 2 storm sewers as approved by the Engineer.
- All HDPE storm sewer pipe shall be tested with a mandrel. Maximum deflection shall meet ASTM C1244-93 and Standard Test Method for Concrete Sewer Manholes 30 days after backfill, and should be performed without the aid of a mechanical pulling device. The deflection testing shall meet all requirements of IDEM section 327 IAC 3-6-19(a) (b) (c).



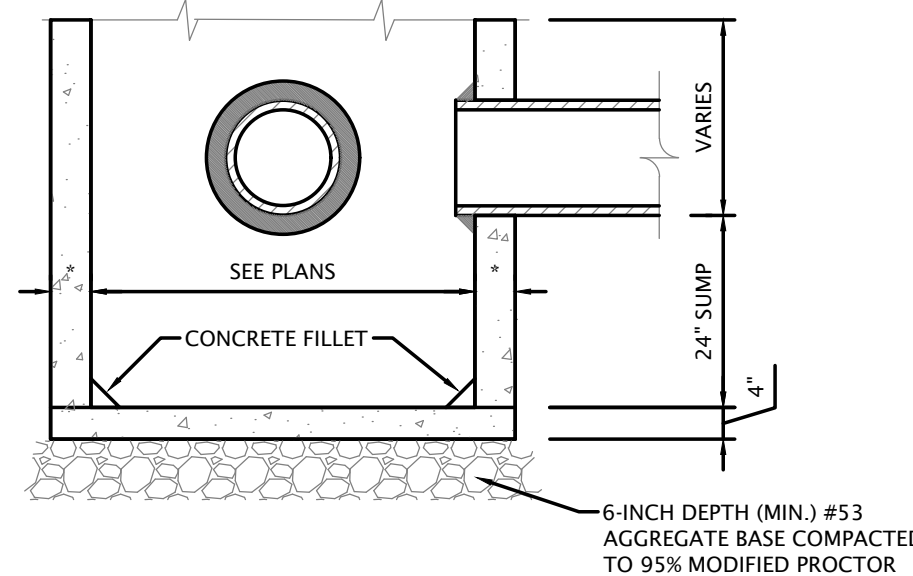
MANHOLE TOP (FLAT TOP)
(NOT TO SCALE)

USE WHERE RESTRICTED HEAD ROOM WILL NOT ALLOW FOR TAPERED WALLS



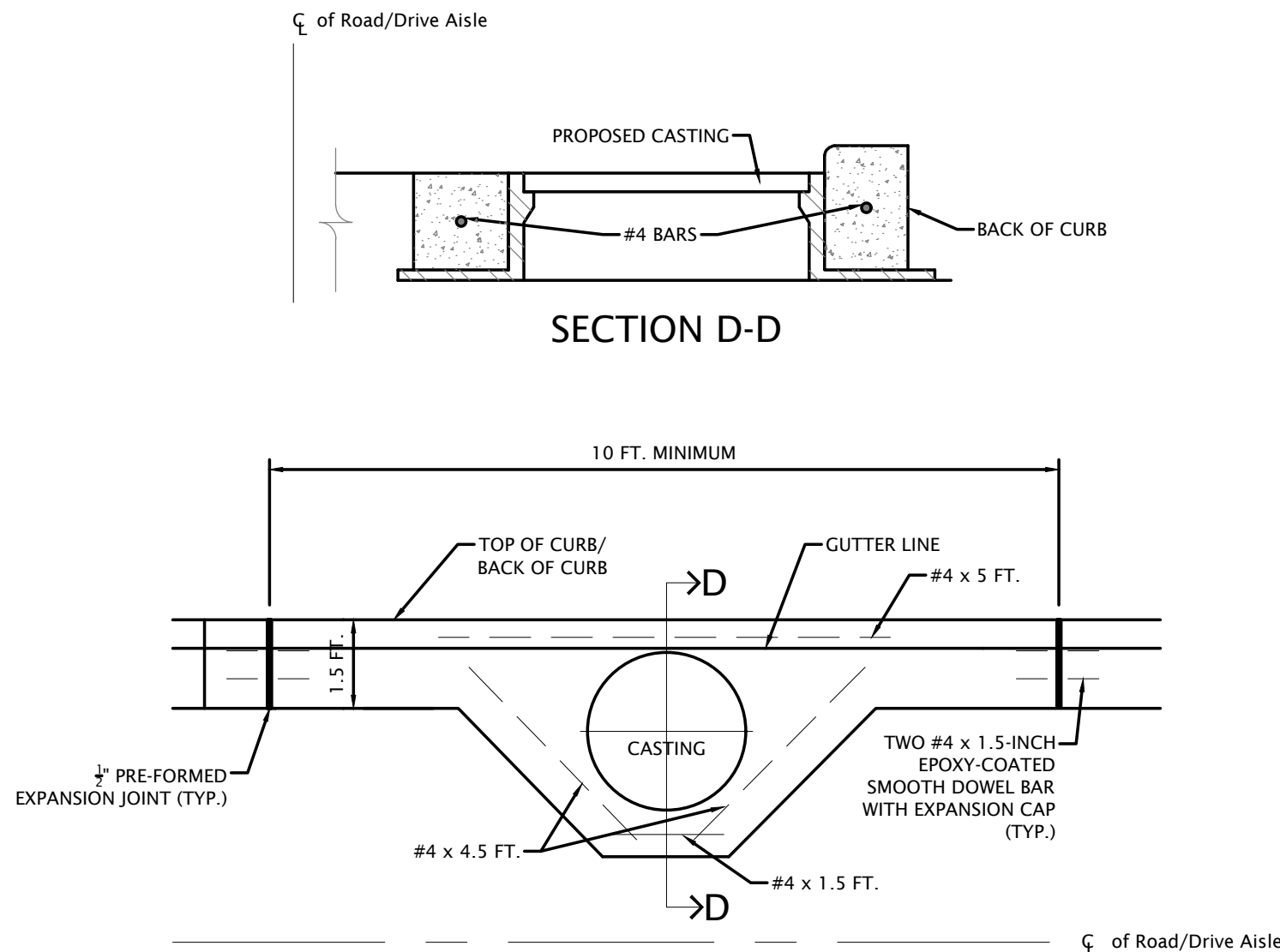
INLET MANHOLE/MANHOLE
(NOT TO SCALE)

INLET MANHOLE (IMH) USES AN OPED LID - SEE STORM CALLOUT FOR FRAME & LID TYPE
MANHOLE (MH) USES A CLOSED LID - SEE STORM CALLOUT FOR FRAME & LID TYPE.

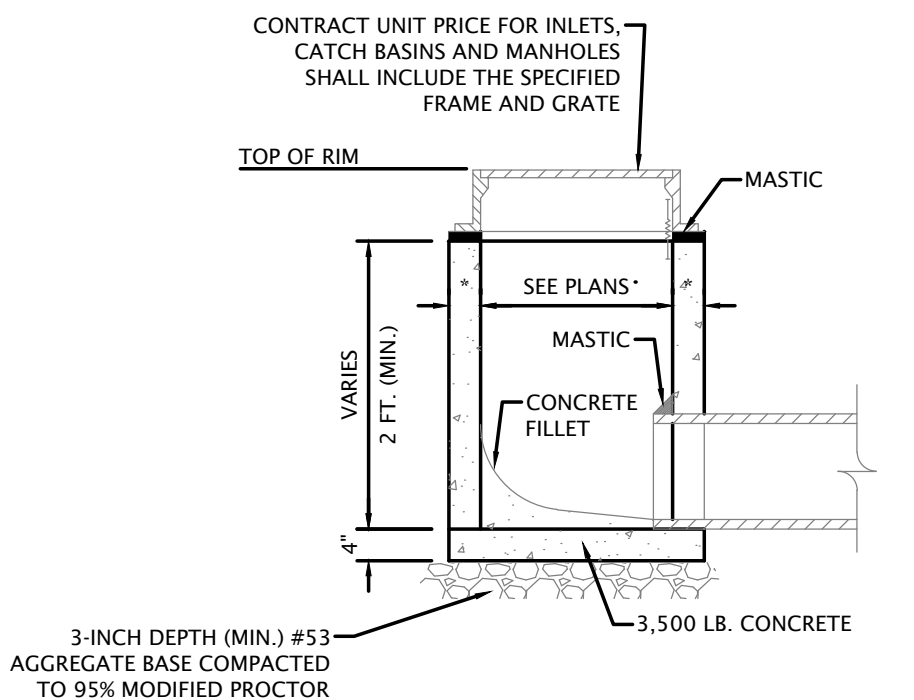


CATCH BASIN
(NOT TO SCALE)

SEE INLET MANHOLE/MANHOLE DETAIL
CATCH BASIN USES EITHER CLOSED OR OPEN LIDS - SEE UTILITY PLAN FOR FRAME & LID TYPE.

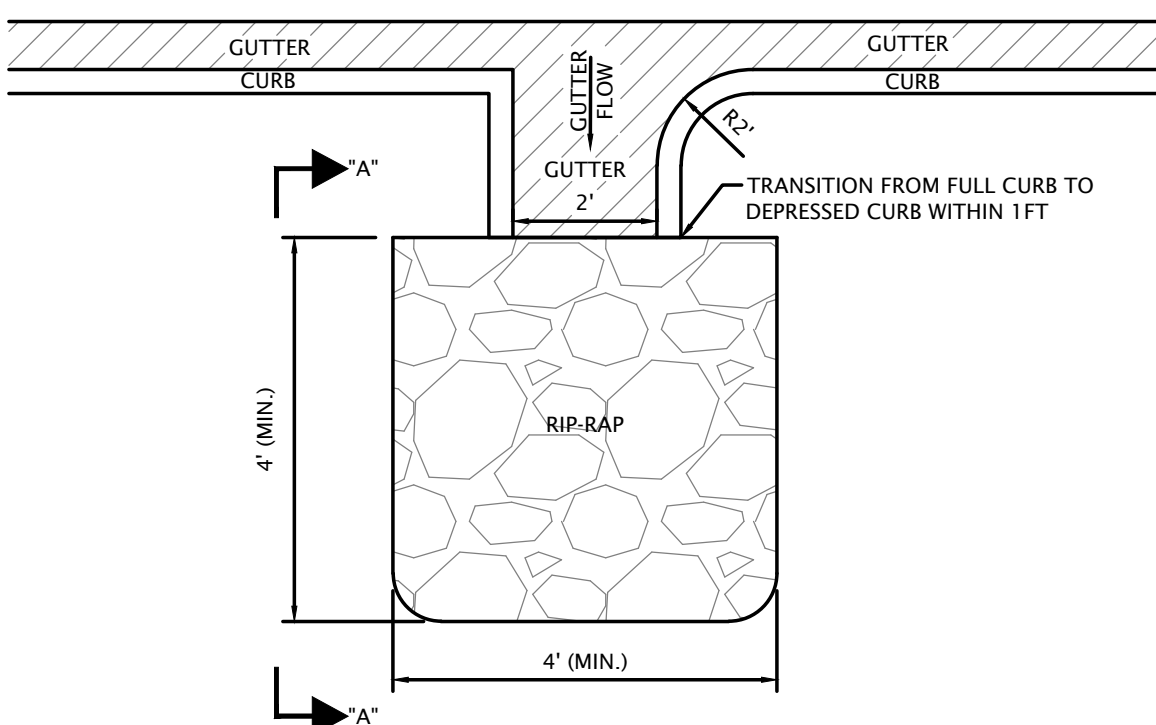


CURB & GUTTER AT STRUCTURE
(NOT TO SCALE)



INLET
(NOT TO SCALE)

INLET USES OPEN LIDS - SEE UTILITY PLAN FOR FRAME & LID TYPE.



SECTION A-A
(NOT TO SCALE)

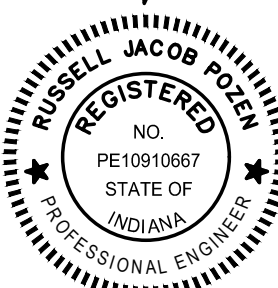
- NOTES:
- MATERIAL: HARD, ANGULAR AND WEATHER-RESISTANT, HAVING A SPECIFIC GRAVITY OF AT LEAST 2.5
GRADATION: WELL-GRADED STONE, 50% (BY WEIGHT) LARGER THAN THE SPECIFIED #50; HOWEVER, THE LARGEST PIECES SHOULD NOT EXCEED TWO TIMES THE SPECIFIED #50 AND NO MORE THAN 15% OF THE PIECES (BY WEIGHT) SHOULD BE LESS THAN 3 INCHES.
- FILTER: USE GEOTEXTILE FABRIC FOR STABILIZATION AND FILTRATION OR SAND/GRAVEL LAYER PLACED UNDER ALL PERMANENT RIP-RAP INSTALLATIONS.
- SLOPE: 2:1 OR FLATTER, UNLESS APPROVED IN THE EROSION AND SEDIMENT CONTROL PLAN.

CURB TURNOUT
(NOT TO SCALE)



1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

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06/30/2023

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63
Construction Details

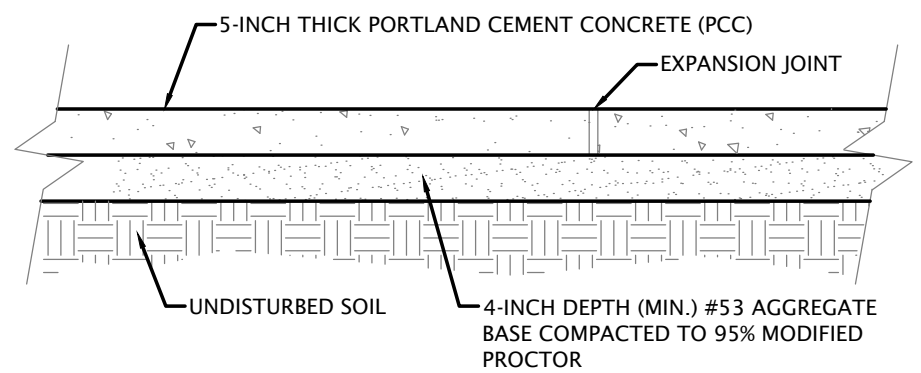
NO SCALE

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DESIGN BY DVG DATE 05/19/23

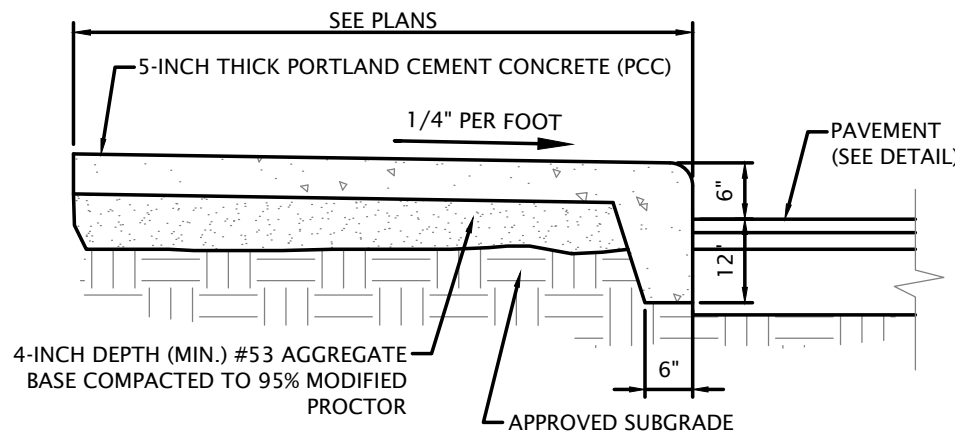
PROJECT NO. 22-0538

C203

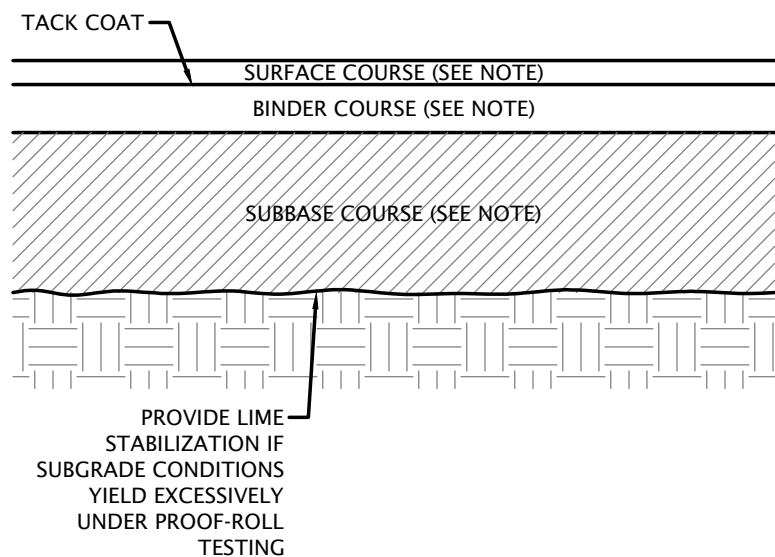


SIDEWALK (NOT TO SCALE)

1/4" WIDE CONSTRUCTION TOOLED JOINT SPACED
AT A DISTANCE EQUAL TO THE WIDTH

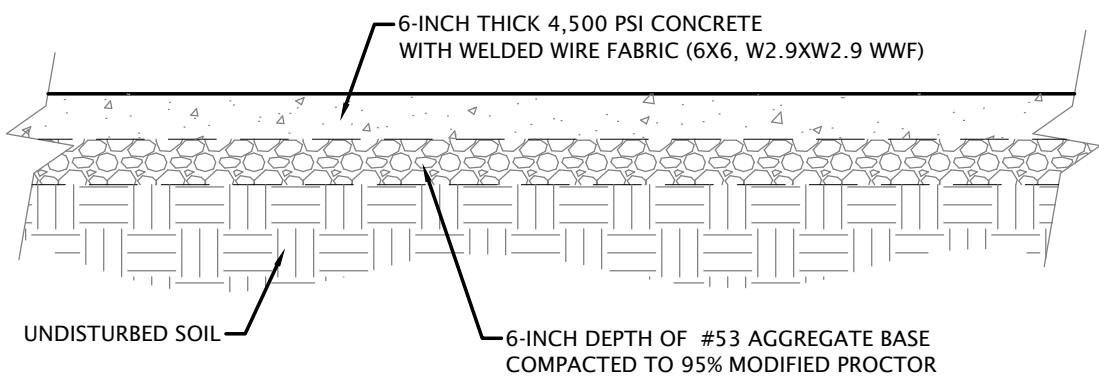


MONOLITHIC CURB & SIDEWALK (NOT TO SCALE)



- SURFACE COURSE**
1.5 INCHES
INDOT HMA TYPE B SURFACE, 9.5mm
- BINDER COURSE**
3.0 INCHES
INDOT HMA TYPE B INTERMEDIATE, 19.0mm
- SUBBASE COURSE**
9.0 INCHES OF #53 COMPACTED LIMESTONE AGGREGATE
ON APPROVED PROOF-ROLLED SUBGRADE

ASPHALT PAVEMENT CROSS SECTION (REPLACE ALLEY) (NOT TO SCALE)



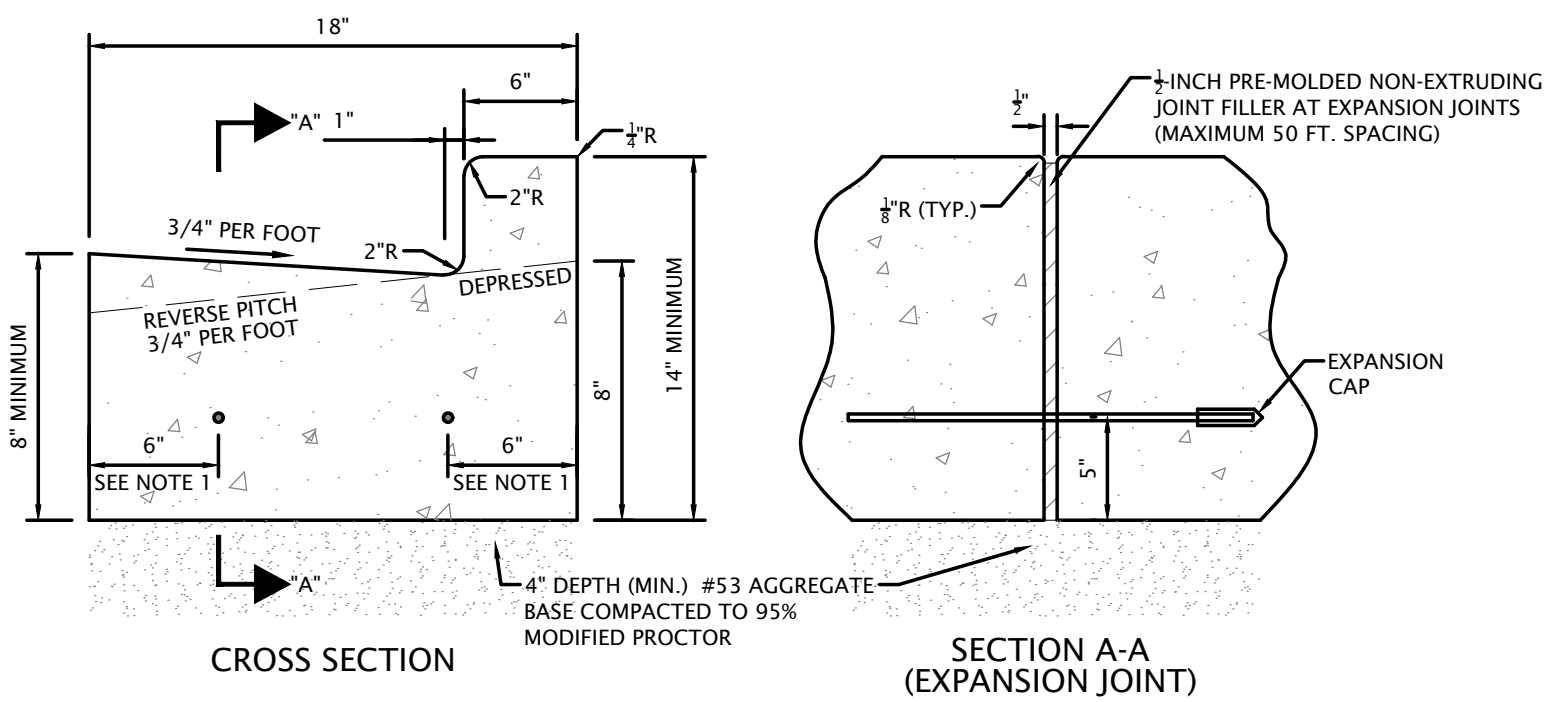
CONCRETE PARKING LOT PAVEMENT (NOT TO SCALE)

CONCRETE FLAT WORK NOTES:

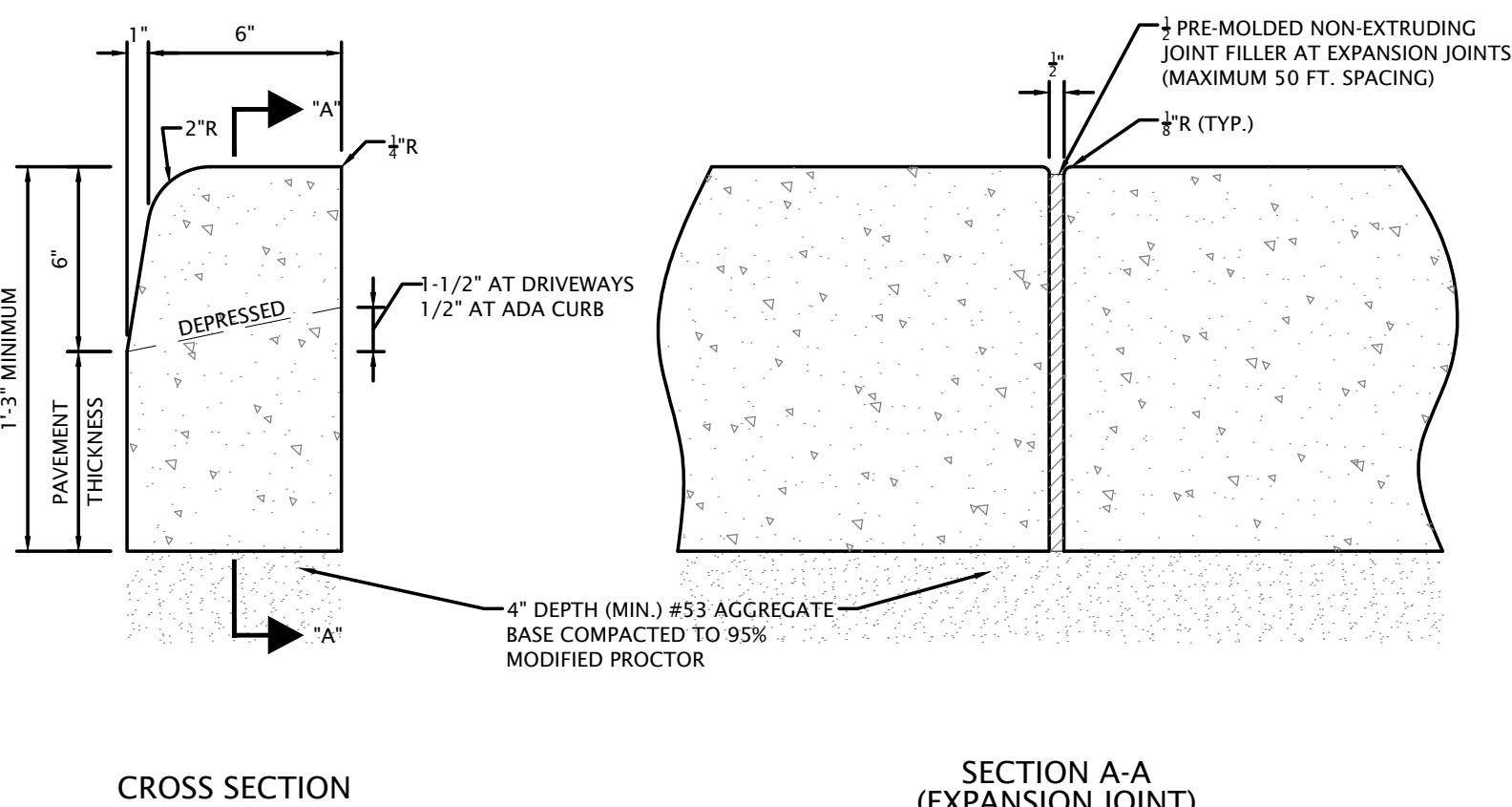
1. PROVIDE 1/4" INCH EXPANSION JOINT CONFORMING TO ASTM D-1751 ALONG BACK OF CURBS, DRIVEWAYS, STEPS, WALLS AND ACROSS THE SIDEWALK AT INTERVALS NOT TO EXCEED 40 FEET.
2. EXTEND EXPANSION JOINT MATERIAL FULL DEPTH OF THE SLAB.
3. PROVIDE TOOLED "V-GROOVE" CONTROL JOINT SPACED AT A DISTANCE EQUAL TO THE WIDTH OF THE WALK BUT NOT OVER 10 FEET APART, OR AS SPECIFIED ON THE SITE PLAN.
4. CONCRETE SHALL BE CLASS "A" & 4,500 PSI IN 28 DAYS, MEETING THE REQUIREMENTS OF THE MOST RECENT INDOT STANDARD SPECIFICATIONS MANUAL.
5. ALL CONCRETE FLAT WORK SHALL BE REINFORCED WIRE MESH 6"x6"x W2.9xW2.9 WWF

CONCRETE CURB & GUTTER NOTES

1. PROVIDE TWO #4 BARS (10 FT. LONG) CENTERED IN EACH UTILITY TRENCH.
2. PROVIDE TWO #6 SMOOTH BARS WITH EXPANSION CAPS AT EACH EXPANSION JOINT.
3. COST OF BARS SHALL BE INCLUDED IN THE UNIT PRICE (PER LINEAR FOOT) FOR CURB AND GUTTER.
4. CONTRACTION JOINTS SHALL BE PLACED AT EQUAL SPACES BETWEEN NORMAL EXPANSION JOINTS.
5. 1/4" EXPANSION JOINTS AT 50 FEET MAXIMUM.
6. CONTRACTION JOINTS AT 20 FEET MAXIMUM.
7. CONTRACTION JOINTS SHALL BE SAW CUT IN THE UPPER 1/3 OF CURB AND GUTTER WITHIN 7 DAYS OF PLACEMENT
8. SAW CUT EXISTING CURB PRIOR TO REMOVAL. PROVIDE NEAT AND CLEAN FACE TO ABUT NEW CURB.
9. USE 4,500 (MIN.) PSI CONCRETE.
10. DEPRESS DRIVEWAYS, AS REQUIRED.



BARRIER CURB & GUTTER (NOT TO SCALE)

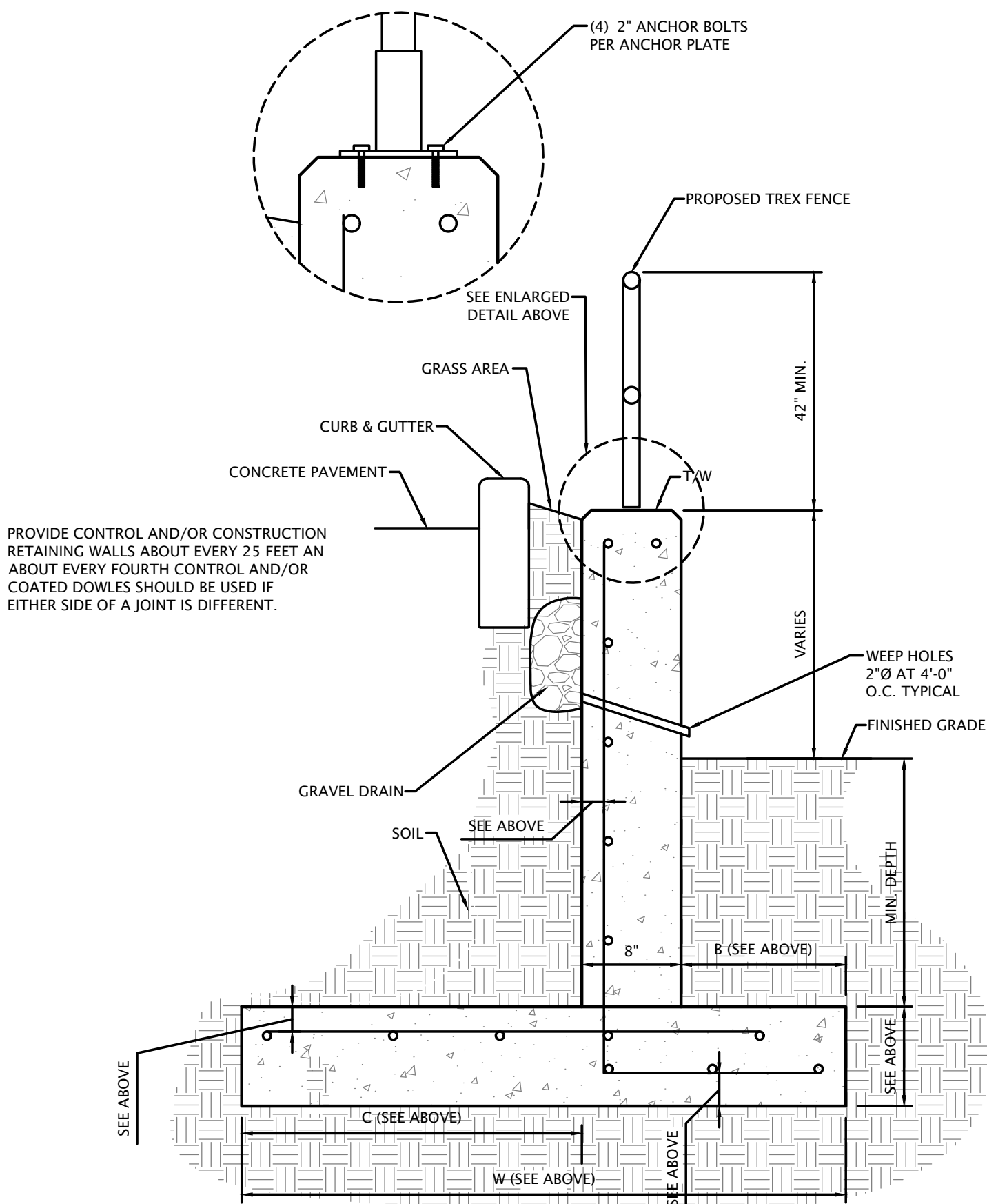
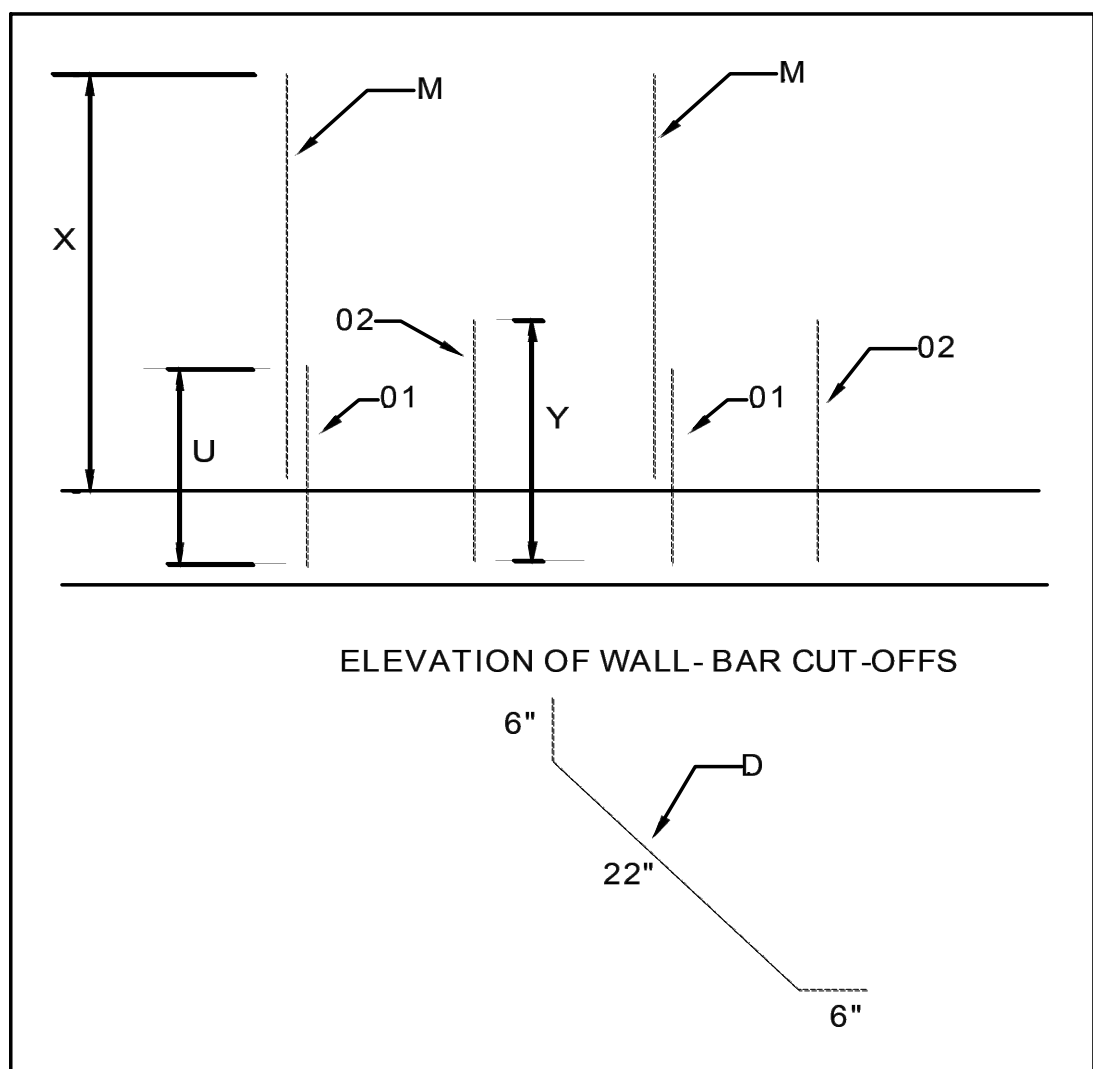
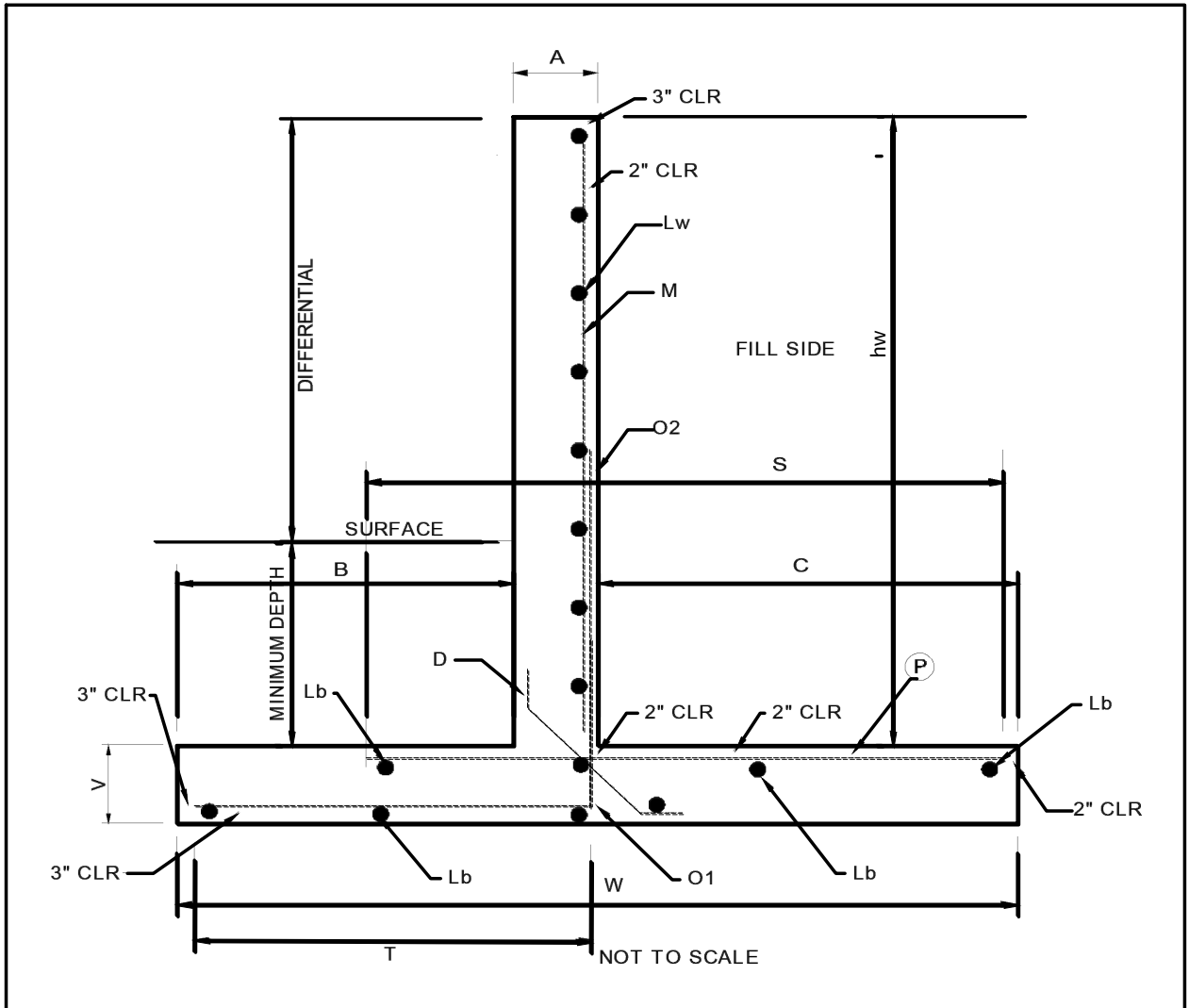


6-INCH BARRIER CURB (NOT TO SCALE)

RETAINING WALL DESIGN - SIZE OF WALL											
DIFFER.	hw	A	B	C	W	S	T	V	Y-VARIES	U	X
0-2.0	2'-6"-4'-6"	8"	1'-3"	1'-8"	3'-7"	3'-2"	1'-6"	1'-0"	3'-0"-4'-11"	NOT USED	NOT USED
2.1-3.7	4'-7"-6'-3"	8"	1'-8"	3'-0"	5'-4"	4'-11"	1'-11"	1'-0"	6'-1"-6'-9"	NOT USED	NOT USED
4.0	8'-3"	8"	2'-0"	3'-6"	6'-2"	5'-7"	2'-3"	1'-0"	8'-9"	NOT USED	NOT USED

RETAINING WALL DESIGN - REINFORCEMENT									
	Lb	O2	D	Lw	P	O1	M		
0-2.0	5-#4	#4@9"	#4@9"	#4@12"	#4@9"	NOT USED	NOT USED		
2.1-3.7	7-#4	#4@9"	#4@9"	#4@12"	#4@9"	NOT USED	NOT USED		
4.0	8-#4	#6@9"	#5@9"	#4@12"	#6@18"	NOT USED	NOT USED		

*HOOKED AT BASE



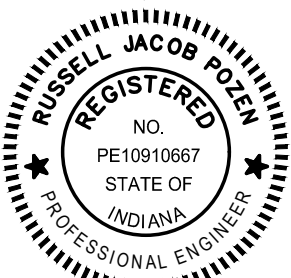
NOTE: RAILING SHOULD BE INSTALLED WHEN RETAINING WALL IS HIGHER THAN 2.5 FEET.

RETAINING WALL AND RAILING DETAIL (NOT TO SCALE)



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Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

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08/22/2023

Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE: REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63
Construction Details

NO SCALE

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DESIGN BY DVG DATE 05/19/23

PROJECT NO. 22-0538

C204

EROSION CONTROL MEASURES
CHEMICAL STABILIZATION

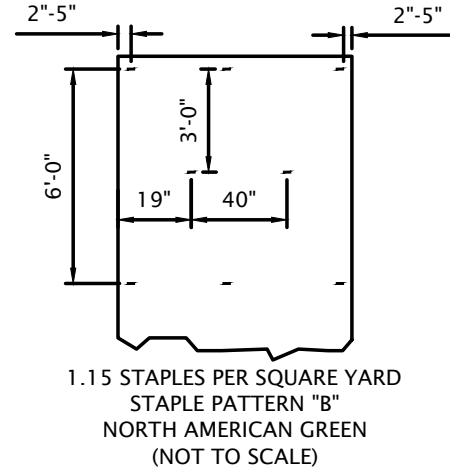
- MATERIAL: SOFT PIABLE MATTING SUCH AS JUTE, COIR OR BURLAP, APPLIED POLYMER SYSTEMS, "SILT STOP" DRY POWDER (OR APPROVED EQUAL).
- COVERAGE: "SILT STOP" DRY POWDER IS A SOIL-SPECIFIC MATERIAL. A SOIL SAMPLE MUST BE SUBMITTED TO THE MANUFACTURER TO DETERMINE PROPER APPLICATION RATES.
- INSTALLATION:
1. PREPARE THE SITE BY FILLING IN CULLIES, HILLS AND LOW SPOTS.
 2. APPLY "SILT STOP" POWDER (DRY) OVER DRY GROUND WITH A SEED/FERTILIZER SPREADER.
 3. SELECT THE TYPE AND WEIGHT OF EROSION CONTROL BLANKET TO FIT THE SITE CONDITIONS (e.g. SLOPE, CHANNEL AND FLOW VELOCITY).
- MAINTENANCE:
1. DURING VEGETATIVE ESTABLISHMENT, INSPECT AFTER STORM EVENTS FOR ANY EROSION.
 2. IF ANY AREA SHOWS EROSION, REPAIR THE GRADE AND RE-APPLY "SILT STOP" POWDER AND RE-LAY AND STAPLE THE BLANKET.
 3. AFTER VEGETATIVE ESTABLISHMENT, CHECK THE TREATED AREA PERIODICALLY.

GEOTEXTILES

- MATERIAL: NORTH AMERICAN GREEN - SC 150 or DS 150 BLANKET
SC 150 WHEN PLACEMENT OCCURS IN THE FALL/WINTER AND WHEN DURABILITY IS REQUIRED
DS 150 DEGRADES MORE RAPIDLY, ALLOWING FOR SOONER MOWING OF THE STABILIZED AREA

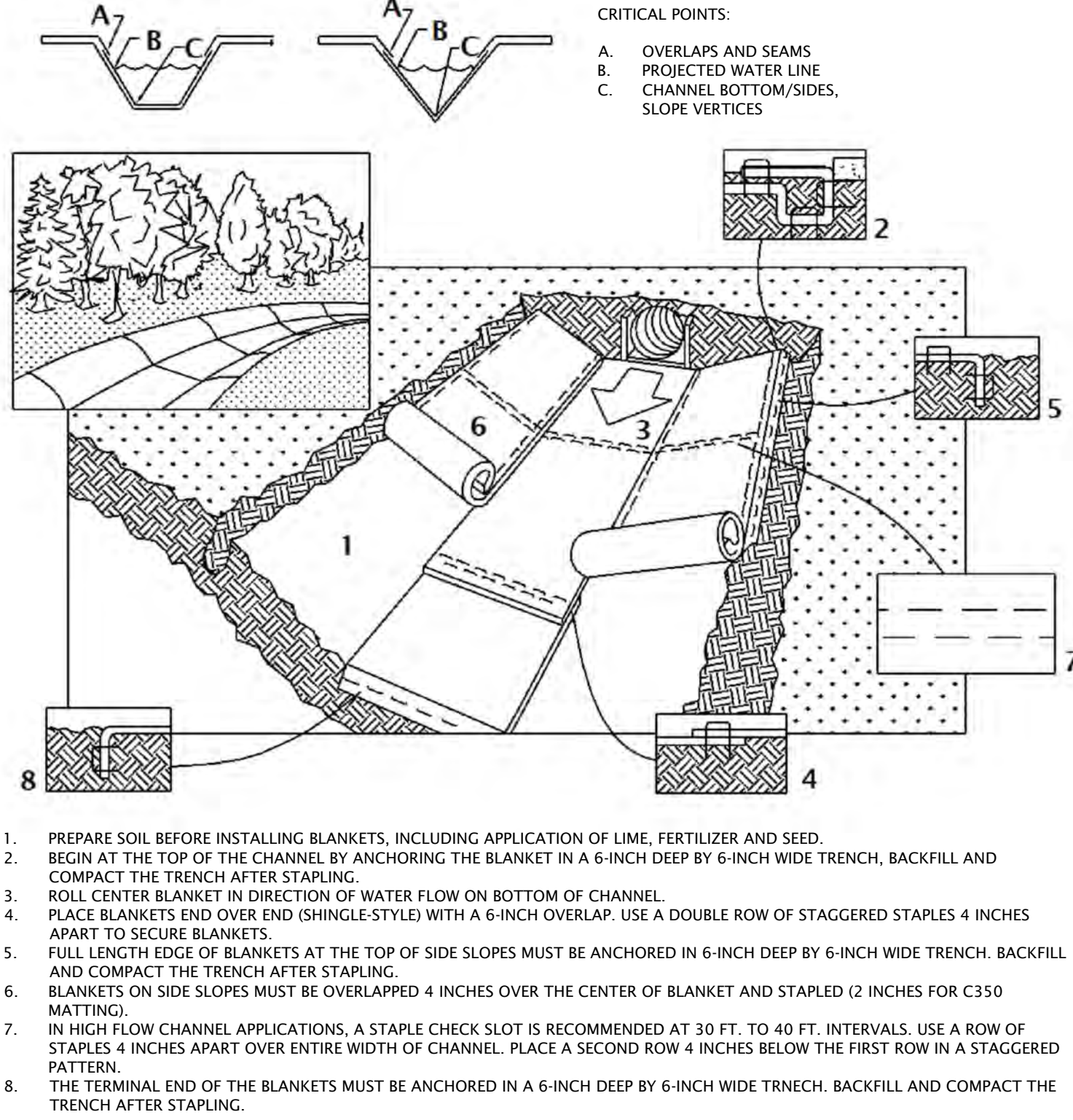
EROSION CONTROL BLANKET (SURFACE-APPLIED)

- ANCHORING: STAPLES AS RECOMMENDED BY THE MANUFACTURER. FOR NORTH AMERICAN GREEN, USE STAPLE PATTERN "B". SEE CHART BELOW.
- INSTALLATION:
1. SELECT THE TYPE AND WEIGHT OF EROSION CONTROL BLANKET TO FIT THE SITE CONDITIONS (e.g. SLOPE, CHANNEL, FLOW VELOCITY).
 2. INSTALL ANY PRACTICES NEEDED TO CONTROL EROSION AND RUNOFF, SUCH AS TEMPORARY OR PERMANENT DIVERSION, SEDIMENT BASIN OR TRAP, SILT FENCE, AND/OR STRAW BALE DAM.
 3. GRADE THE SITE AS SPECIFIED IN THE CONSTRUCTION PLAN.
 4. ADD TOPSOIL WHERE APPROPRIATE.
 5. PREPARE THE SEEDBED, FERTILIZE (AND LIME IF NEEDED) AND SEED THE AREA IMMEDIATELY AFTER GRADING.
 6. FOLLOW MANUFACTURERS DIRECTIONS AND LAY THE BLANKETS ON THE SEEDD AREA SUCH THAT THEY ARE IN CONTINUOUS CONTACT WITH THE SOIL AND THAT THE UPSLOPE OR UPSTREAM ONES OVERLAP THE LOWER ONES BY AT LEAST 8 INCHES.
 7. TUCK THE UPPERMOST EDGE OF THE UPPER BLANKETS INTO A CHECK SLOT (SLIT TRENCH), BACKFILL WITH SOIL, AND TAMP DOWN.
 8. ANCHOR THE BLANKETS AS SPECIFIED BY THE MANUFACTURER.
- MAINTENANCE:
1. DURING VEGETATIVE ESTABLISHMENT, INSPECT AFTER STORM EVENTS FOR ANY EROSION BELOW THE BLANKET.
 2. IF ANY AREA SHOWS EROSION, PULL BACK THAT PORTION OF THE BLANKET COVERING IT, ADD SOIL, RE-SEED THE AREA, AND RE-LAY AND STAPLE THE BLANKET.
 3. AFTER VEGETATIVE ESTABLISHMENT, CHECK THE TREATED AREA PERIODICALLY.



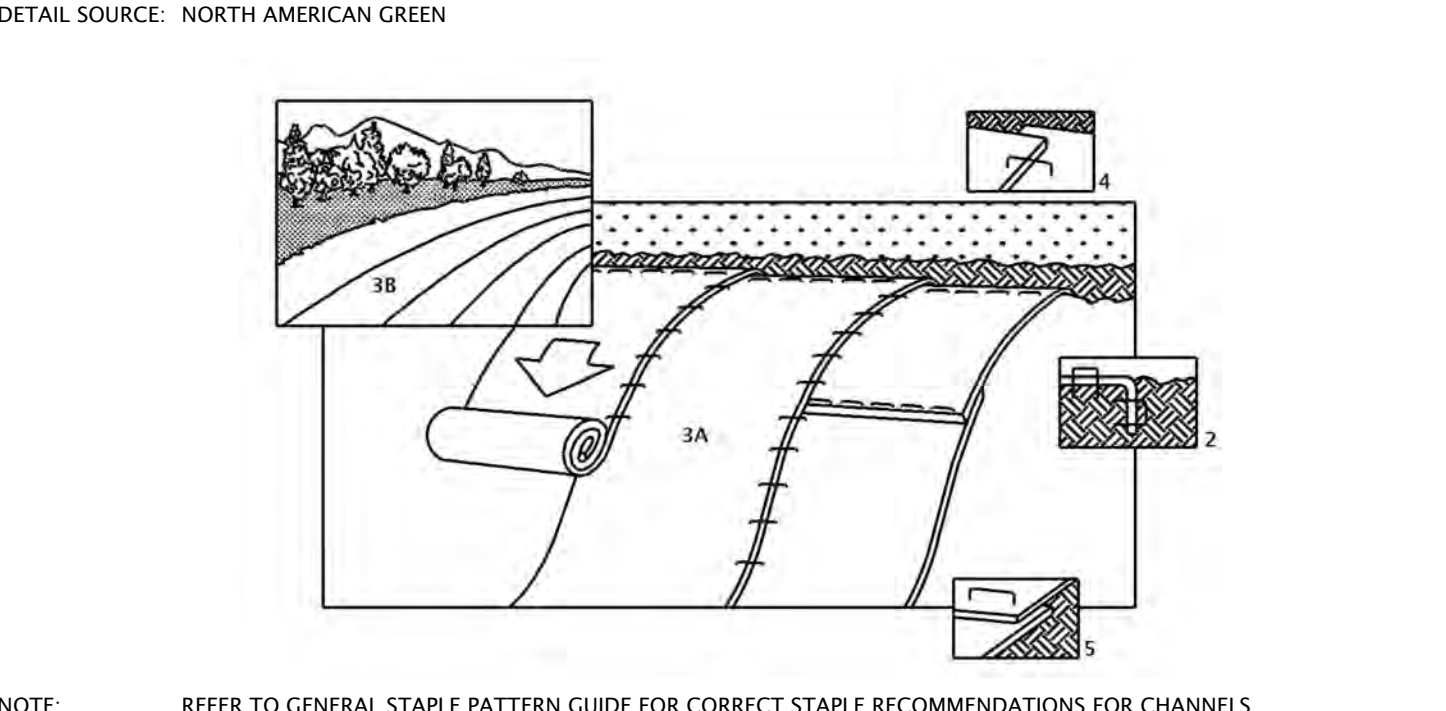
EROSION CONTROL BLANKET (CHANNEL APPLICATION)

- DETAIL SOURCE: NORTH AMERICAN GREEN
- NOTE: HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE. REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE RECOMMENDATIONS FOR CHANNELS.



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6-INCH DEEP BY 6-INCH WIDE TRENCH, BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL.
4. PLACE BLANKETS END OVER END (SHINGLE-STYLE) WITH A 6-INCH OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4 INCHES APART TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT THE TOP OF SIDE SLOPES MUST BE ANCHORED IN 6-INCH DEEP BY 6-INCH WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4 INCHES OVER THE CENTER OF BLANKET AND STAPLED (2 INCHES FOR C350 MATTING).
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 FT. TO 40 FT. INTERVALS. USE A ROW OF STAPLES 4 INCHES APART OVER ENTIRE WIDTH OF CHANNEL. PLACE A SECOND ROW 4 INCHES BELOW THE FIRST ROW IN A STAGGERED PATTERN.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6-INCH DEEP BY 6-INCH WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

EROSION CONTROL BLANKET (SIDE SLOPE APPLICATION)



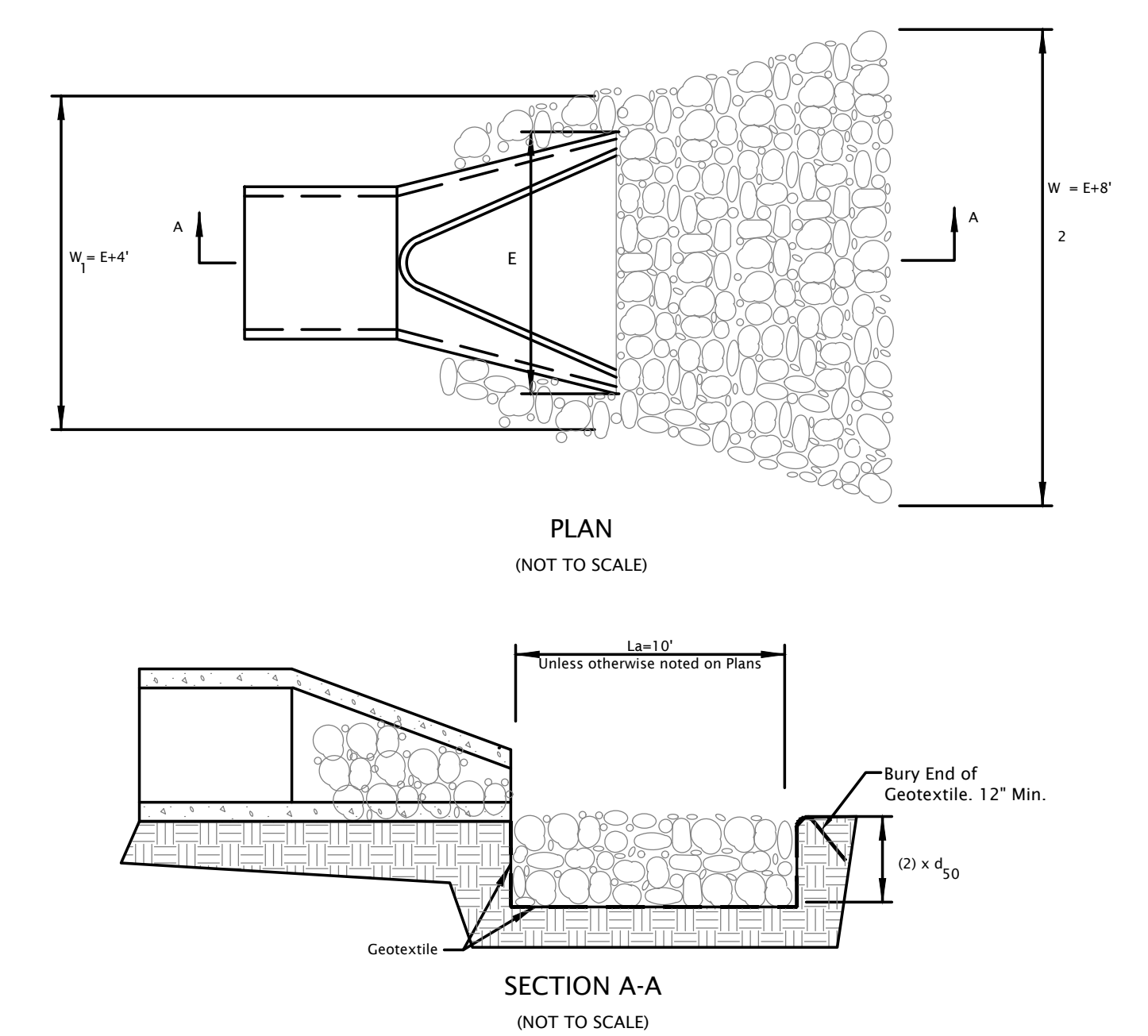
- NOTE: REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE RECOMMENDATIONS FOR CHANNELS.
- DIRECTIONS:
1. PREPARE SOIL BEFORE INSTALLING BLANKETS INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED. WHEN USING CELL-O-SEED, DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET 6-INCH DEEP BY 6-INCH WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 3. ROLL THE BLANKETS DOWN OR HORIZONTALLY ACROSS THE SLOPE.
 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH AN APPROXIMATELY 2-INCH OVERLAP.
 5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE-STYLE) WITH AN APPROXIMATELY 4-INCH OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12 INCHES APART.

RIP RAP AT PIPE OUTLET

- MATERIAL: HARD, ANGULAR AND WEATHER-RESISTANT, HAVING A SPECIFIC GRAVITY OF AT LEAST 2.5
GRADATION: WELL-GRADED STONE, 50% (BY WEIGHT LARGER THAN THE SPECIFIED #50; HOWEVER, THE LARGEST PIECES SHOULD NOT EXCEED TWO TIMES THE SPECIFIED #50 AND NO MORE THAN 15% OF THE PIECES (BY WEIGHT) SHOULD BE LESS THAN 3 INCHES.
- FILTER: USE GEOTEXTILE FABRIC FOR STABILIZATION AND FILTRATION OR SAND/GRAVEL LAYER PLACED UNDER ALL PERMANENT RIP RAP INSTALLATIONS.
- SLOPE: 2:1 OR FLATTER, UNLESS APPROVED IN THE EROSION AND SEDIMENT CONTROL PLAN.
- SUBGRADE PREPARATION
1. REMOVE BRUSH, TREES, STUMPS AND OTHER DEBRIS.
 2. EXCAVATE ONLY DEEP ENOUGH FOR BOTH FILTER AND RIP RAP. OVER-EXCAVATION INCREASES THE AMOUNT OF SOIL CONSIDERABLY.
 3. COMPACT ANY FILL MATERIAL TO THE DENSITY OF THE SURROUNDING UNDISTURBED SOIL.
 4. SMOOTH THE GRADED FOUNDATION.

- FILTER PLACEMENT
1. IF USING GEOTEXTILE FABRIC, PLACE IT ON THE SMOOTHED FOUNDATION, OVERLAP THE EDGES AT LEAST 12 INCHES AND SECURE WITH ANCHOR PINS SPACED EVERY 3 FEET ALONG THE OVERLAP.
 2. IF USING A SAND/GRAVEL FILTER, SPREAD THE WELL-GRADED AGGREGATE IN A UNIFORM LAYER TO THE REQUIRED THICKNESS (6 INCHES MINIMUM); IF TWO OR MORE LAYERS ARE SPECIFIED, PLACE THE LAYER OF SMALLER GRADATION FIRST AND AVOID MIXING THE LAYERS.
- RIP RAP PLACEMENT
1. IMMEDIATELY AFTER INSTALLING THE FILTER, ADD THE RIP RAP TO FULL THICKNESS IN ONE OPERATION. DO NOT DUMP THROUGH CHUTES OR USE ANY METHOD THAT CAUSES SEGREGATION OF ROCK SIZES OR THAT WILL DISLODGE OR DAMAGE THE UNDERLYING FILTER MATERIAL.
 2. IF FABRIC IS DAMAGED, REMOVE THE RIP RAP AND REPAIR BY ADDING ANOTHER LAYER OF FABRIC, OVERLAPPING THE DAMAGED AREA BY 12 INCHES.
 3. PLACE SMALLER ROCK IN VOIDS TO FORM A DENSE, UNIFORM AND WELL-GRADED MASS. SELECTIVE LOADING AT THE QUARRY AND SOME HAND PLACEMENT MAY BE NEEDED TO ENSURE AN EVEN DISTRIBUTION OF ROCK MATERIAL.
 4. BLEND THE ROCK SURFACE SMOOTHLY WITH THE SURROUNDING AREA TO ELIMINATE PROTRUSIONS OR OVER-FALLS.

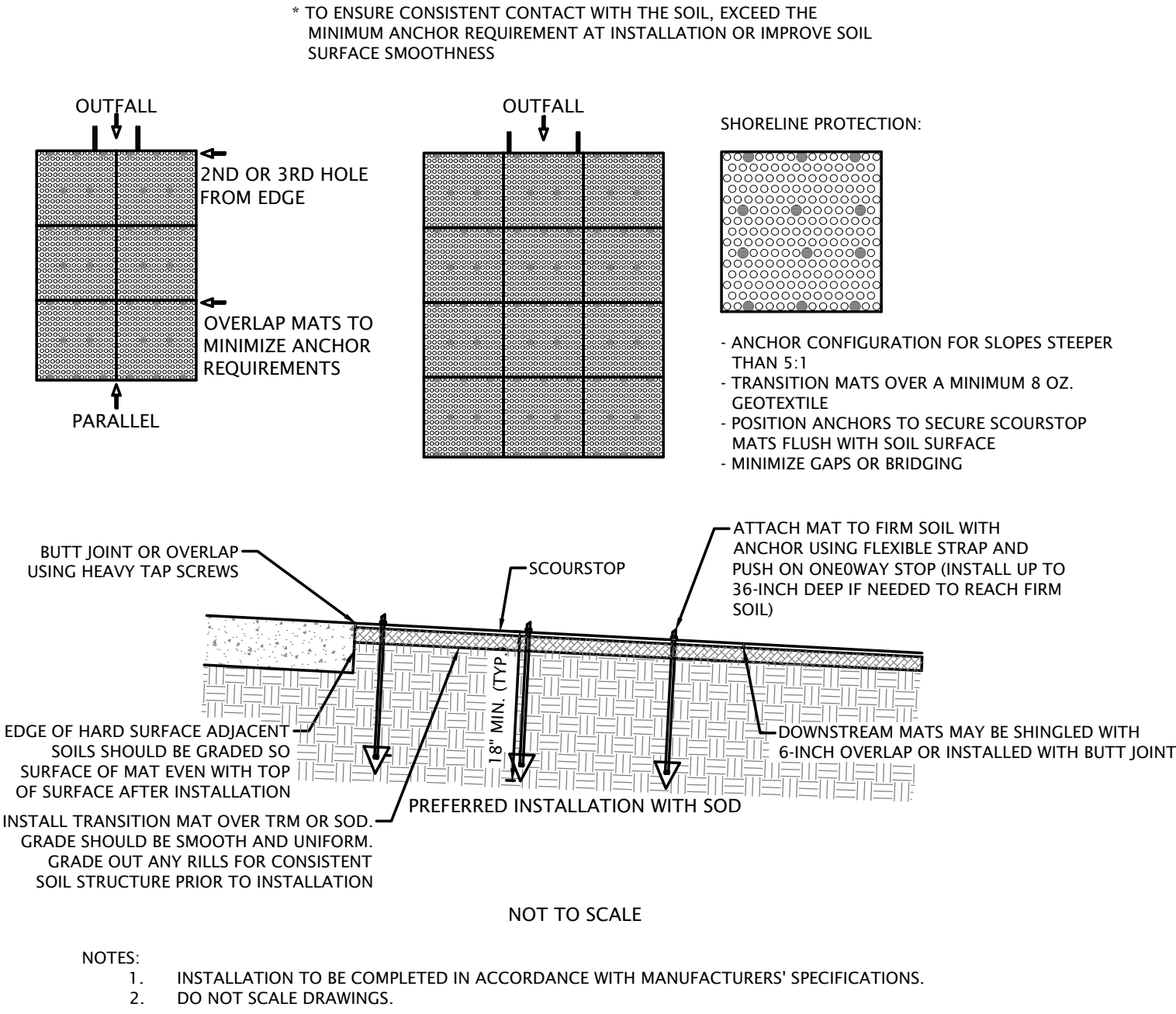
- MAINTENANCE
1. INSPECT PERIODICALLY FOR DISPLACED ROCK MATERIAL, SLUMPING AND EROSION AT EDGES, ESPECIALLY DOWN-STREAM OR DOWN-SLOPE.



- PLAN (NOT TO SCALE)
- SECTION A-A (NOT TO SCALE)
- NOTE: Bury End of Geotextile, 12" Min.
- NOTE: Unless otherwise noted on Plans, L=10'
- NOTE: (2) x #50

SCOURSTOP TRANSITION MAT FOR SCOUR PROTECTION

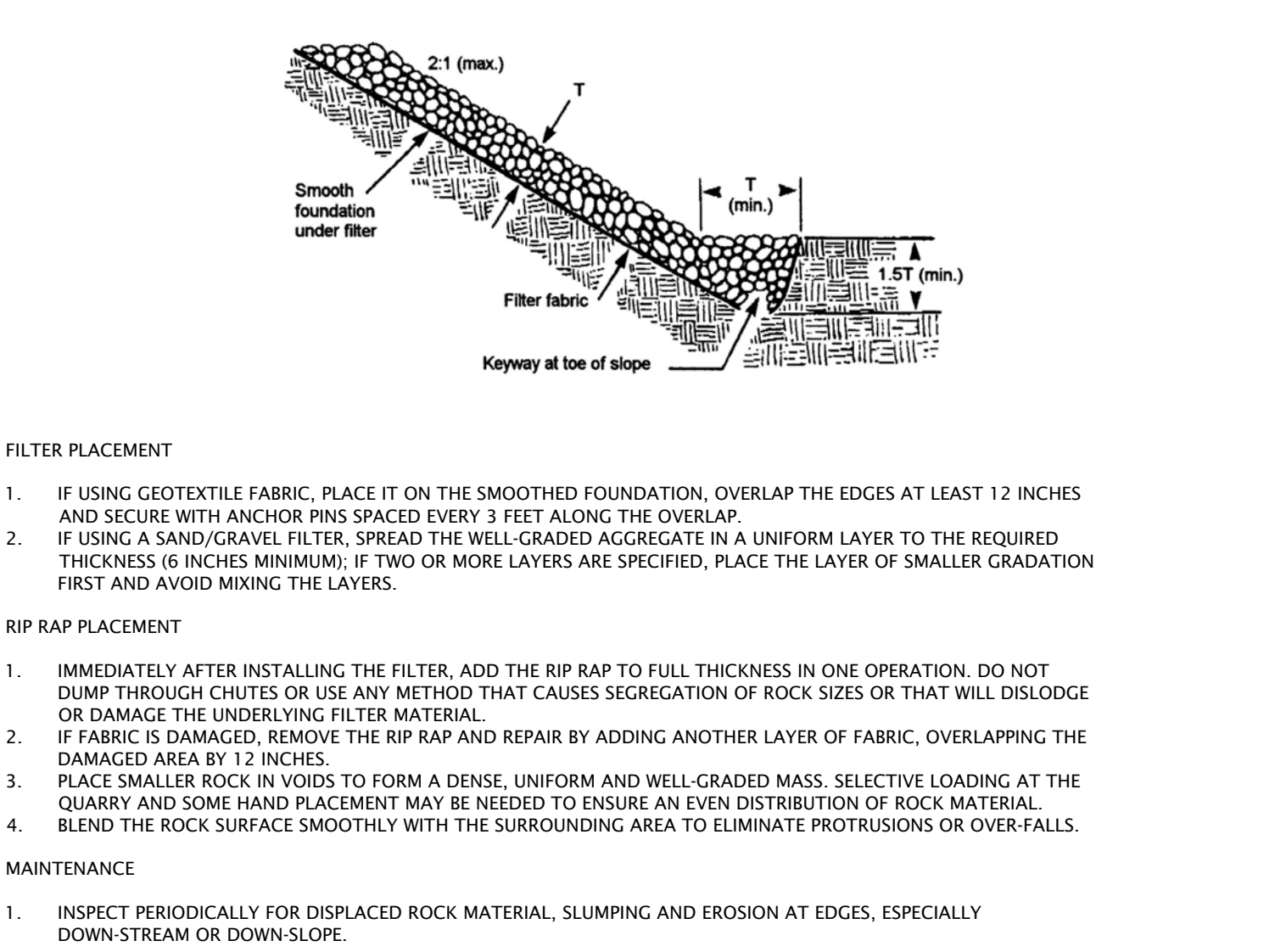
- MATERIAL: SCOUR STOP TRANSITION MATS
WH SHURTLEFF COMPANY
11 WALLACE AVENUE
SOUTH PORTLAND, ME 04106
(800) 563-6149
WWW.WHSHURTLEFF.COM
- ANCHOR REQUIREMENTS:
- FIRST ROW OF SCOURSTOP MATS - MINIMUM OF 8 ANCHORS
SECTION ROW OF SCOURSTOP MATS - MINIMUM OF 5 ANCHORS
- * TO ENSURE CONSISTENT CONTACT WITH THE SOIL, EXCEED THE MINIMUM ANCHOR REQUIREMENT AT INSTALLATION OR IMPROVE SOIL SURFACE SMOOTHNESS
- PIPE DIAMETER DISCHARGE (CFS) SCOURSTOP WIDTHxLENGTH
- | | | |
|------|-----|-------------|
| 12" | 8 | 4' x 4' |
| 24" | 30 | 4' x 8' |
| 36" | 75 | 8' x 12' |
| 48" | 100 | 12' x 16' |
| 60" | 150 | 12' x 20' |
| 72"+ | | SEE DETAILS |
- PUSH ON ONE-WAY STOP
WASHER (>2.5" DIA.)
TRANSITION MAT
METAL SPADE



- NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS.
 2. DO NOT SCALE DRAWINGS.
- SHORELINE PROTECTION:
- ANCHOR CONFIGURATION FOR SLOPES STEEPER THAN 5:1
 - TRANSITION MATS OVER A MINIMUM 8 OZ. GEOTEXTILE
 - POSITION ANCHORS TO SECURE SCOURSTOP MATS FLUSH WITH SOIL SURFACE
 - MINIMIZE GAPS OR BRIDGING
- ATTACH MAT TO FIRM SOIL WITH ANCHOR USING FLEXIBLE STRAP AND PUSH ON ONEWAY STOP (INSTALL UP TO 36-INCH DEEP IF NEEDED TO REACH FIRM SOIL)
- DOWNSTREAM MATS MAY BE SHINGLED WITH 6-INCH OVERLAP OR INSTALLED WITH BUTT JOINT
- PREFERRED INSTALLATION WITH SOD
- INSTALL TRANSITION MAT OVER TRM OR SOD. GRADE SHOULD BE SMOOTH AND UNIFORM. GRADE OUT ANY RILLS FOR CONSISTENT SOIL STRUCTURE PRIOR TO INSTALLATION

RIP-RAP FOR SCOUR PROTECTION

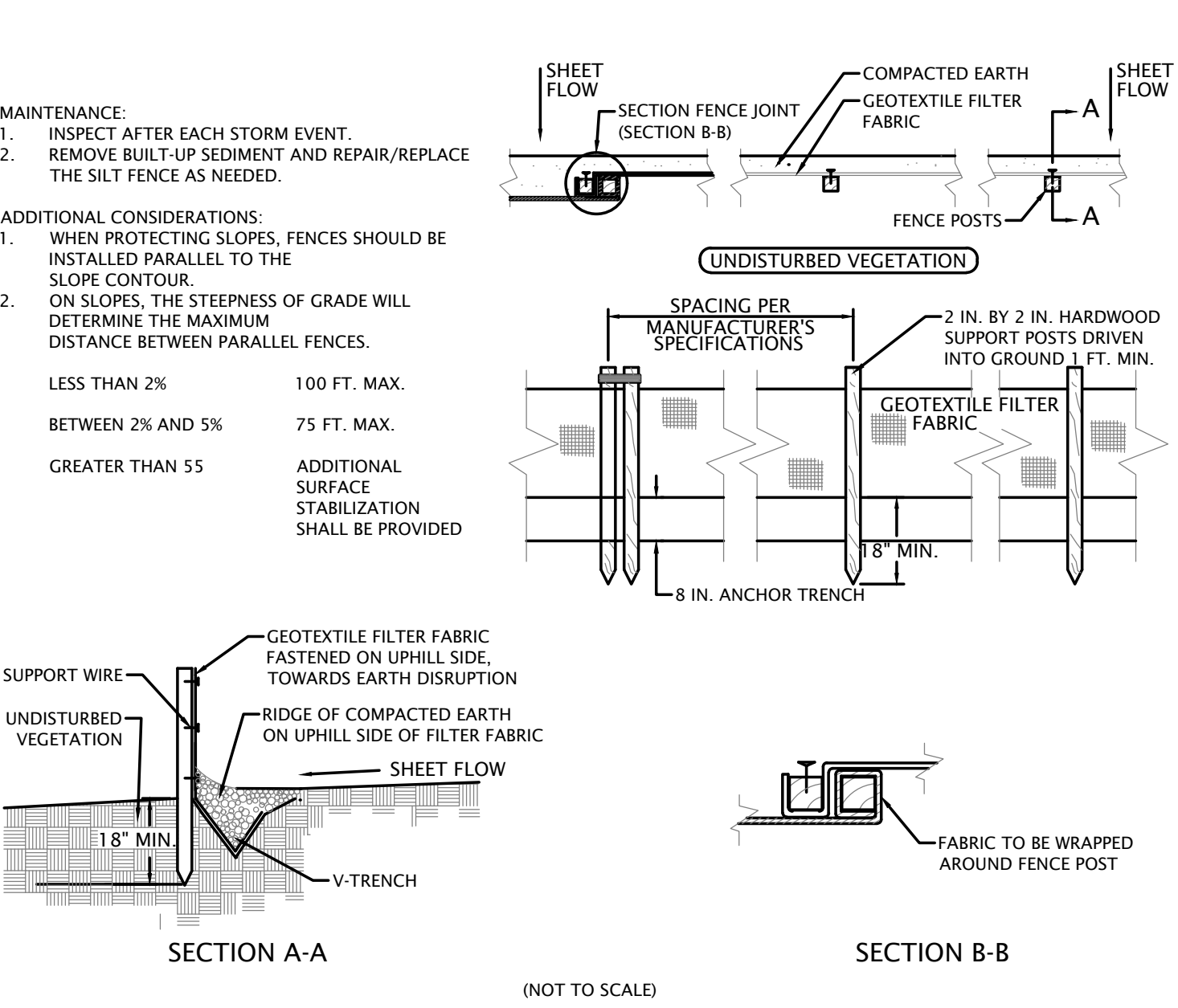
- MATERIAL: HARD, ANGULAR AND WEATHER-RESISTANT, HAVING A SPECIFIC GRAVITY OF AT LEAST 2.5
GRADATION: WELL-GRADED STONE, 50% (BY WEIGHT LARGER THAN THE SPECIFIED #50; HOWEVER, THE LARGEST PIECES SHOULD NOT EXCEED TWO TIMES THE SPECIFIED #50 AND NO MORE THAN 15% OF THE PIECES (BY WEIGHT) SHOULD BE LESS THAN 3 INCHES.
- FILTER: USE GEOTEXTILE FABRIC FOR STABILIZATION AND FILTRATION OR SAND/GRAVEL LAYER PLACED UNDER ALL PERMANENT RIP RAP INSTALLATIONS.
- SLOPE: 2:1 OR FLATTER, UNLESS APPROVED IN THE EROSION AND SEDIMENT CONTROL PLAN.
- SLOPE MINIMUM THICKNESS: TWO TIMES THE SPECIFIED #50 STONE DIAMETER.
- SUBGRADE PREPARATION
1. REMOVE BRUSH, TREES, STUMPS AND OTHER DEBRIS.
 2. EXCAVATE ONLY DEEP ENOUGH FOR BOTH FILTER AND RIP RAP. OVER-EXCAVATION INCREASES THE AMOUNT OF SOIL CONSIDERABLY.
 3. COMPACT ANY FILL MATERIAL TO THE DENSITY OF THE SURROUNDING UNDISTURBED SOIL.
 4. CUT KEYWAY IN STABLE MATERIAL AT THE BASE OF THE SLOPE TO REINFORCE TOE. KEYWAY DEPTH SHOULD BE 1.5 TIMES THE DESIGN THICKNESS OF THE RIP RAP AND SHOULD EXTEND A HORIZONTAL DISTANCE EQUAL TO THE DESIGN THICKNESS.
 5. SMOOTH THE GRADED FOUNDATION



- FILTER PLACEMENT
1. IF USING GEOTEXTILE FABRIC, PLACE IT ON THE SMOOTHED FOUNDATION, OVERLAP THE EDGES AT LEAST 12 INCHES AND SECURE WITH ANCHOR PINS SPACED EVERY 3 FEET ALONG THE OVERLAP.
 2. IF USING A SAND/GRAVEL FILTER, SPREAD THE WELL-GRADED AGGREGATE IN A UNIFORM LAYER TO THE REQUIRED THICKNESS (6 INCHES MINIMUM); IF TWO OR MORE LAYERS ARE SPECIFIED, PLACE THE LAYER OF SMALLER GRADATION FIRST AND AVOID MIXING THE LAYERS.
- RIP RAP PLACEMENT
1. IMMEDIATELY AFTER INSTALLING THE FILTER, ADD THE RIP RAP TO FULL THICKNESS IN ONE OPERATION. DO NOT DUMP THROUGH CHUTES OR USE ANY METHOD THAT CAUSES SEGREGATION OF ROCK SIZES OR THAT WILL DISLODGE OR DAMAGE THE UNDERLYING FILTER MATERIAL.
 2. IF FABRIC IS DAMAGED, REMOVE THE RIP RAP AND REPAIR BY ADDING ANOTHER LAYER OF FABRIC, OVERLAPPING THE DAMAGED AREA BY 12 INCHES.
 3. PLACE SMALLER ROCK IN VOIDS TO FORM A DENSE, UNIFORM AND WELL-GRADED MASS. SELECTIVE LOADING AT THE QUARRY AND SOME HAND PLACEMENT MAY BE NEEDED TO ENSURE AN EVEN DISTRIBUTION OF ROCK MATERIAL.
 4. BLEND THE ROCK SURFACE SMOOTHLY WITH THE SURROUNDING AREA TO ELIMINATE PROTRUSIONS OR OVER-FALLS.
- MAINTENANCE
1. INSPECT PERIODICALLY FOR DISPLACED ROCK MATERIAL, SLUMPING AND EROSION AT EDGES, ESPECIALLY DOWN-STREAM OR DOWN-SLOPE.

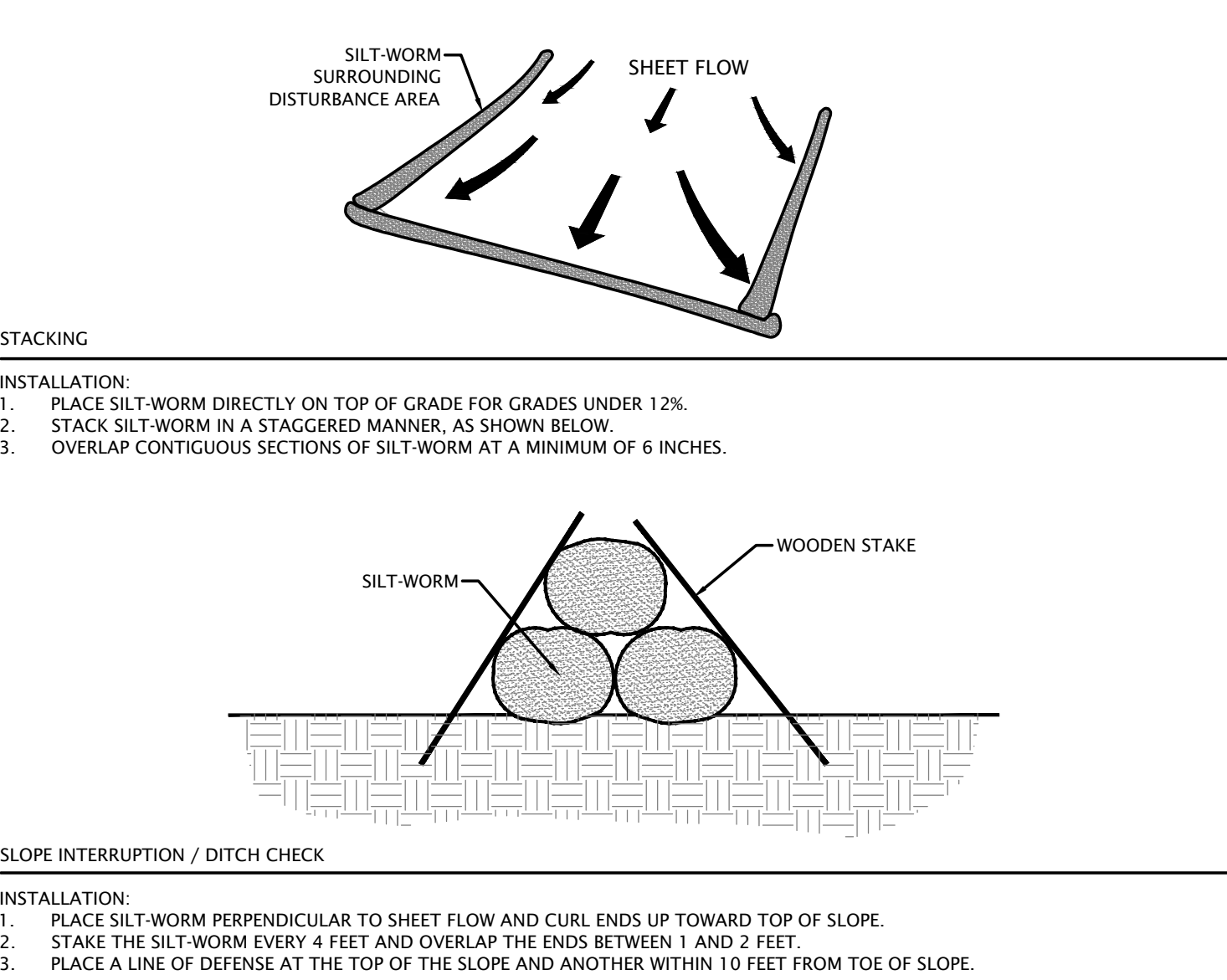
SILT FENCE

- APPROACH: POOL AREA FLAT (LESS THAN 1% SLOPE), WITH SEDIMENT STORAGE OF 945 CU.FT./ACRE DISTURBED.
- MATERIALS: ECONOMY BLUE STRIPE SILT FENCE WITH POSTS, MANUFACTURED BY MIDWEST CONSTRUCTION PRODUCTS AT (800) 532-2381 OR APPROVED EQUAL.
- ANCHORING: 2 INCH BY 2 INCH HARDWOOD STAKES WITH A LENGTH EQUAL TO THE HEIGHT OF THE SILT FENCE PLUS 1 FOOT.
- INSTALLATION:
1. DRIVE STAKES 1 FT. (MINIMUM) INTO GROUND AND ATTACH FABRIC TO STAKES WITH STAPLER.
 2. BOTTOM OF FABRIC SHALL BE PLACED UNDER 6 INCHES COMPACTED SOIL TO PREVENT SEDIMENT FLOW UNDERNEATH THE FENCE.
 3. ENSURE THAT ALL SUPPORTING POSTS ARE ON THE DOWN SLOPE SIDE OF THE FENCING.



SILT-WORM

- MATERIAL: SILT-WORM OR APPROVED EQUAL
- DIAMETER: 9 INCHES MINIMUM
- PERIMETER CONTROL
- INSTALLATION:
1. PLACE SILT-WORM DIRECTLY ON TOP OF GRADE FOR GRADES UNDER 12%.
 2. ARRANGE PERIMETER CONTROL IN A MANNER THAT IS APPLIED PERPENDICULAR TO SHEET FLOW.
 3. OVERLAP CONTIGUOUS SECTIONS OF SILT-WORM AT A MINIMUM OF 6 INCHES.



- STACKING
- INSTALLATION:
1. PLACE SILT-WORM PERPENDICULAR TO SHEET FLOW AND CURL ENDS UP TOWARD TOP OF SLOPE.
 2. STAKE THE SILT-WORM EVERY 4 FEET AND OVERLAP THE ENDS BETWEEN 1 AND 2 FEET.
 3. PLACE A LINE OF DEFENSE AT THE TOP OF THE SLOPE AND ANOTHER WITHIN 10 FEET FROM TOE OF SLOPE.
- SLOPE INTERRUPTION / DITCH CHECK
- INSTALLATION:
1. PLACE SILT-WORM PERPENDICULAR TO SHEET FLOW AND CURL ENDS UP TOWARD TOP OF SLOPE.
 2. STAKE THE SILT-WORM EVERY 4 FEET AND OVERLAP THE ENDS BETWEEN 1 AND 2 FEET.
 3. PLACE A LINE OF DEFENSE AT THE TOP OF THE SLOPE AND ANOTHER WITHIN 10 FEET FROM TOE OF SLOPE.
- SPACING FOR SLOPE APPLICATION
- | SLOPE | 9-inch | 12-inch | 18-inch | 24-inch |
|------------|--------|---------|---------|---------|
| 2% or less | 70 ft. | 80 ft. | N/A | N/A |
| 5% | 30 ft. | 60 ft. | 80 ft. | N/A |
| 10% | 30 ft. | 30 ft. | 70 ft. | 80 ft. |
| 6:1 | N/A | 20 ft. | 40 ft. | 55 ft. |
| 4:1 | N/A | 20 ft. | 30 ft. | 30 ft. |
| 3:1 | N/A | N/A | 20 ft. | 25 ft. |
| 2:1 | N/A | N/A | 20 ft. | 20 ft. |
- SILT-WORM MAINTENANCE GUIDELINES
- INSPECT WITHIN 24 HOURS OF A RAIN EVENT AND AT LEAST ONCE EVERY 7 CALENDAR DAYS.
 - IF SILT-WORM TEARS, STARTS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED PORTION IMMEDIATELY. NOTE: ALL REPAIRS SHOULD MEET SPECIFICATIONS AS OUTLINED WITHIN THIS MEASURE.
 - REMOVE DEPOSITED SEDIMENT WHEN IT IS CAUSING THE SILT-WORM TO BULGE OR WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT-WORM AT ITS LOWEST POINT. WHEN CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE THE SILT-WORM AND SEDIMENT DEPOSITS, GRADE THE SITE TO BLEND WITH THE SURROUNDING AREA, AND STABILIZE.

DVG

TEAM INC

1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

REGISTERED
NO. PE10810887
STATE OF INDIANA
PROFESSIONAL ENGINEER

06/30/2023

Crew Carwash

11700 Exit 5 Parkway
Fishers, IN 46037

111 Ridge Road Munster
Crew #63
Stormwater Pollution
Prevention Plan Details

NO SCALE

DESIGN BY DVG DATE 05/19/23

PROJECT NO. 22-0538

C302

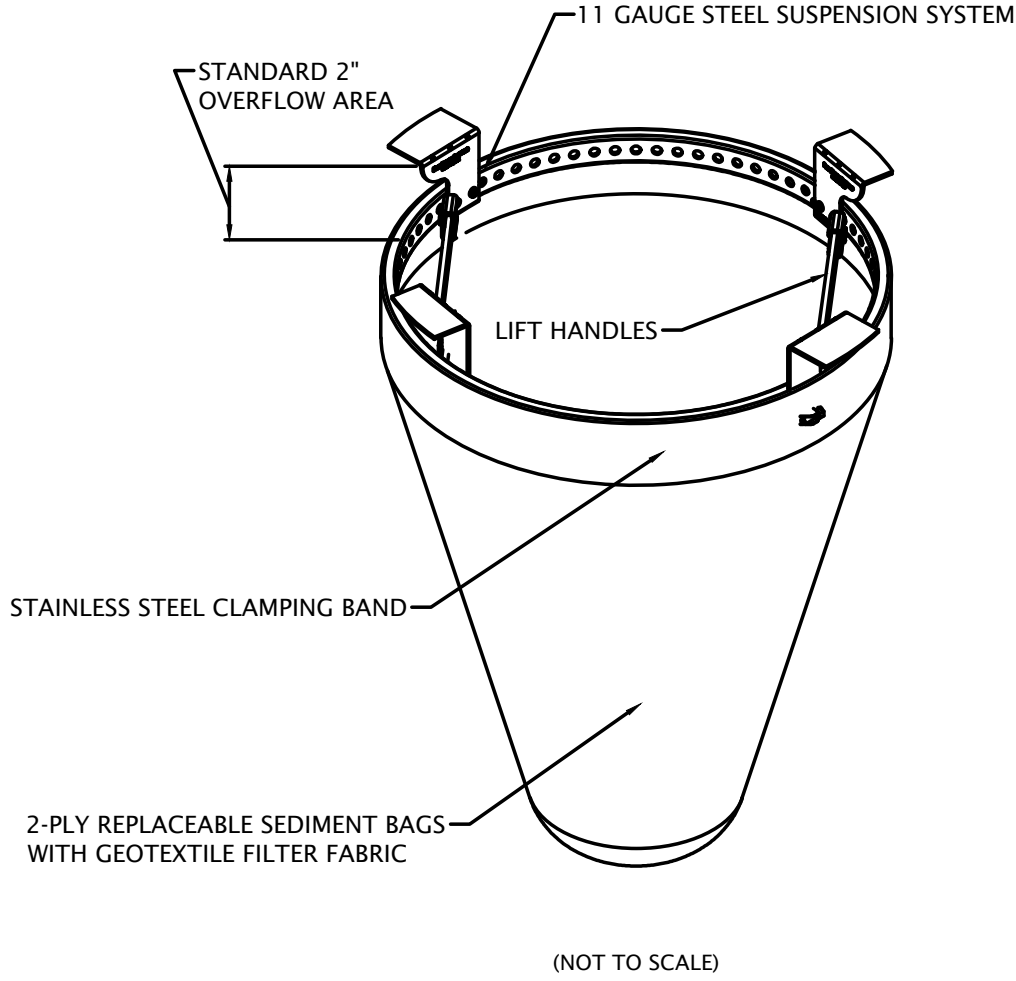
SEDIMENT CONTROL MEASURES (continued)

INLET PROTECTION

MATERIAL: FLEKSTORM CATCH-IT BY ADS, INC. OR APPROVED EQUAL.
ADS CAN BE CONTACTED AT (866) 287-8655

SPECIFICATIONS FOR STANDARD BAGS BY NOMINAL SIZE				
Nominal Bag Size	Solids Storage (CuYd)	Filtered Flow Rate at 50% Max (CFS)	Pr (Wettest)	Pr (New/Wettest)
Small	1.6	1.2	0.9	
Medium	2.1	1.7	1.3	
Large	3.6	2.7	1.9	
XL	4.2	3.6	2.6	

- INSTALLATION:
1. REMOVE GRATE; INSTALL PRIOR TO LAND DISTURBING ACTIVITIES AND/OR IMMEDIATELY AFTER DRAINAGE STRUCTURES HAVE BEEN INSTALLED
 2. DROP INLET PROTECTION ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE.
 3. REPLACE GRATE.



INLET PROTECTION - CURB BASKET

CONTRIBUTING DRAINAGE AREA: 0.25 ACRE MAXIMUM

LOCATION: AT CURB INLETS WHERE BARRIERS SURROUNDING THEM WOULD BE IMPRACTICAL OR UNSAFE

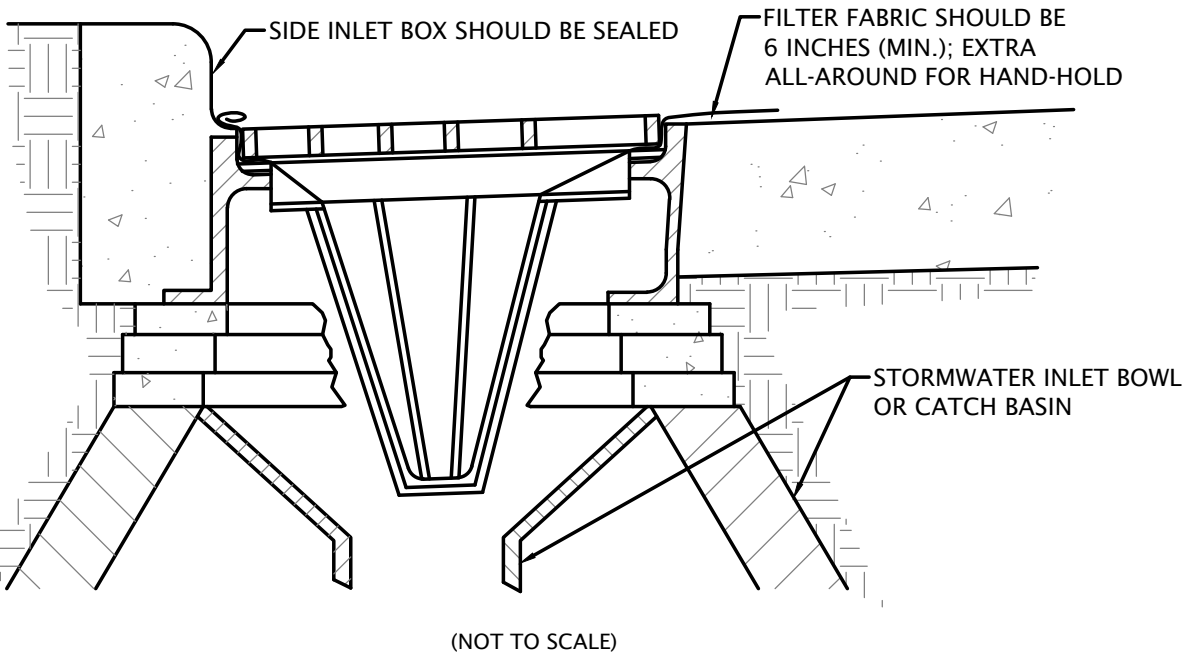
MATERIAL: D2 CATCH-ALL INLET PROTECTOR OR APPROVED EQUAL
D2 LAND & WATER RESOURCE (WWW.D2LWR.COM OR 800-597-2180)

CAPACITY: RUNOFF FROM A 2-YEAR FREQUENCY, 24-HOUR DURATION STORM EVENT ENTERING A STORM DRAIN WITHOUT BYPASS FLOW

BASKET: FABRICATED METAL WITH TOP WIDTH/LENGTH DIMENSIONS SUCH THAT THE BASKET FITS INTO THE INLET WITHOUT GAPS

GEOTEXTILE FABRIC: FOR FILTRATION

- INSTALLATION:
1. INSTALL BASKET CURB INLET PROTECTIONS AS SOON AS INLET BOXES ARE INSTALLED IN THE NEW DEVELOPMENT OR BEFORE LAND-DISTURBING ACTIVITIES BEGIN IN A STABILIZED AREA.
 2. IF NECESSARY, ADAPT BASKET DIMENSIONS TO FIT INLET BOX DIMENSIONS, WHICH VARY ACCORDING TO THE MANUFACTURER AND/OR MODEL.
 3. SEAL THE SIDE INLETS ON THOSE TYPES OF INLET BOXES THAT HAVE THEM.
 4. REMOVE THE GRATE AND PLACE THE BASKET IN THE INLET.
 5. CUT AND INSTALL A PIECE OF FILTER FABRIC LARGE ENOUGH TO LINE THE INSIDE OF THE BASKET AND EXTEND AT LEAST 6 INCHES BEYOND THE FRAM.
 6. REPLACE THE INLET GRATE, WHICH ALSO SERVES TO ANCHOR THE FABRIC.



- MAINTENANCE:
1. INSPECT AFTER EACH STORM EVENT.
 2. REMOVE BUILT-UP SEDIMENT AND REPAIR (OR REPLACE IF NECESSARY) THE GEOTEXTILE FABRIC AFTER EACH STORM EVENT.
 3. PERIODICALLY REMOVE SEDIMENT AND TRACKED-ON SOIL FROM THE STREET (BUT NOT BY FLUSHING WITH WATER) TO REDUCE THE SEDIMENT LOAD ON THIS CURB INLET PRACTICE.

- COMMON CONCERNS:
1. SEDIMENT NOT REMOVED AND GEOTEXTILE FABRIC NOT REPLACED FOLLOWING A STORM EVENT RESULTS IN INCREASED SEDIMENT, TRACKING, TRAFFIC HAZARD, AND EXCESSIVE PONDING.
 2. GEOTEXTILE FABRIC PERMITTIVITY THAT IS TOO LOW RESULTS IN RAPID CLOGGING AND CAUSES SEVERE PONDING WITH SEDIMENT ENTERING THE DRAIN IF THE FABRIC BREAKS.
 3. DRAINAGE AREA TOO LARGE RESULTS IN SEDIMENT OVERLOAD AND SEVERE PONDING; SEDIMENT ENTERS THE DRAIN IF FABRIC BREAKS.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT PAD

MATERIAL: 2 TO 3 INCHES OF WASHED STONE (INDOT #2 AGGREGATE) OVER A STABLE FOUNDATION

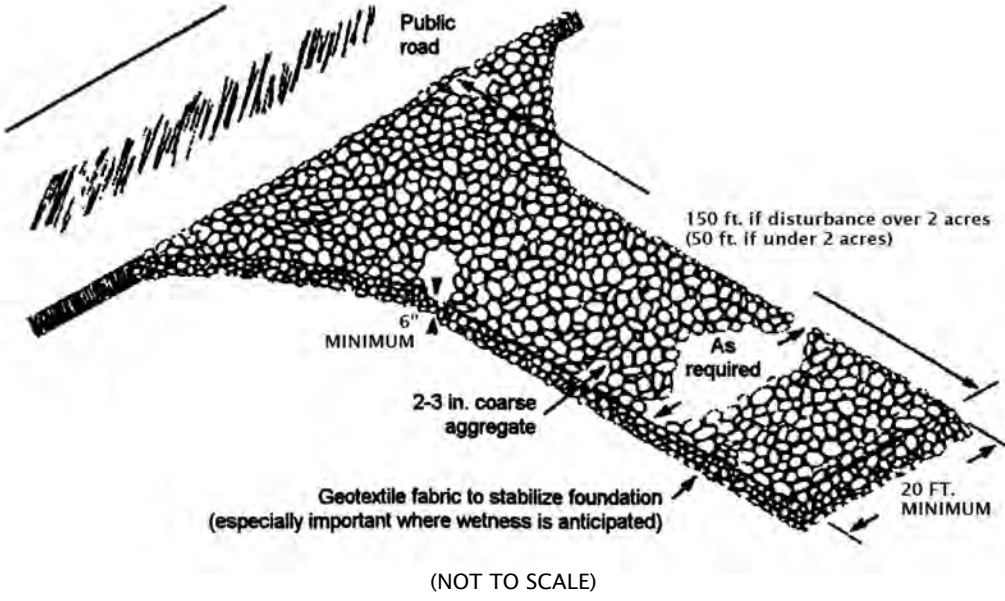
THICKNESS: 6 INCHES MINIMUM

WIDTH: 20 FEET MINIMUM OR FULL WIDTH OF ENTRANCE/EXIT ROADWAY, WHICHEVER IS GREATER

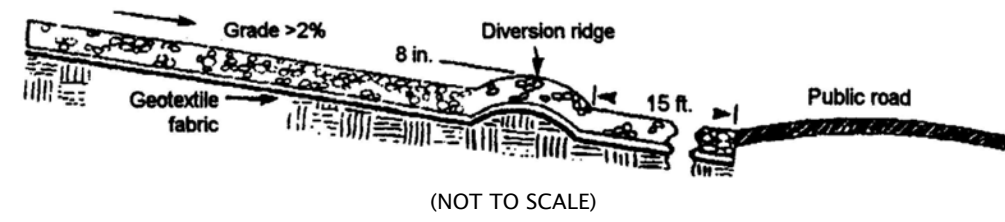
LENGTH: 150 FEET MINIMUM (50 FEET MINIMUM IF SITE DISTURBANCE IS UNDER 2.0 ACRES)

WASHING FACILITY: LEVEL AREA WITH 3 INCHES OF WASHED STONE (MINIMUM) OR A COMMERCIAL RACK AND WASTE WATER DIVERTED TO A SEDIMENT TRAP OR BASIN (PRACTICE 3.72)

GEOTEXTILE FABRIC UNDERLINER: MAY BE USED UNDER WET CONDITIONS OR FOR SOILS WITHIN A HIGH SEASONAL WATER TABLE TO PROVIDE GREATER BEARING STRENGTH



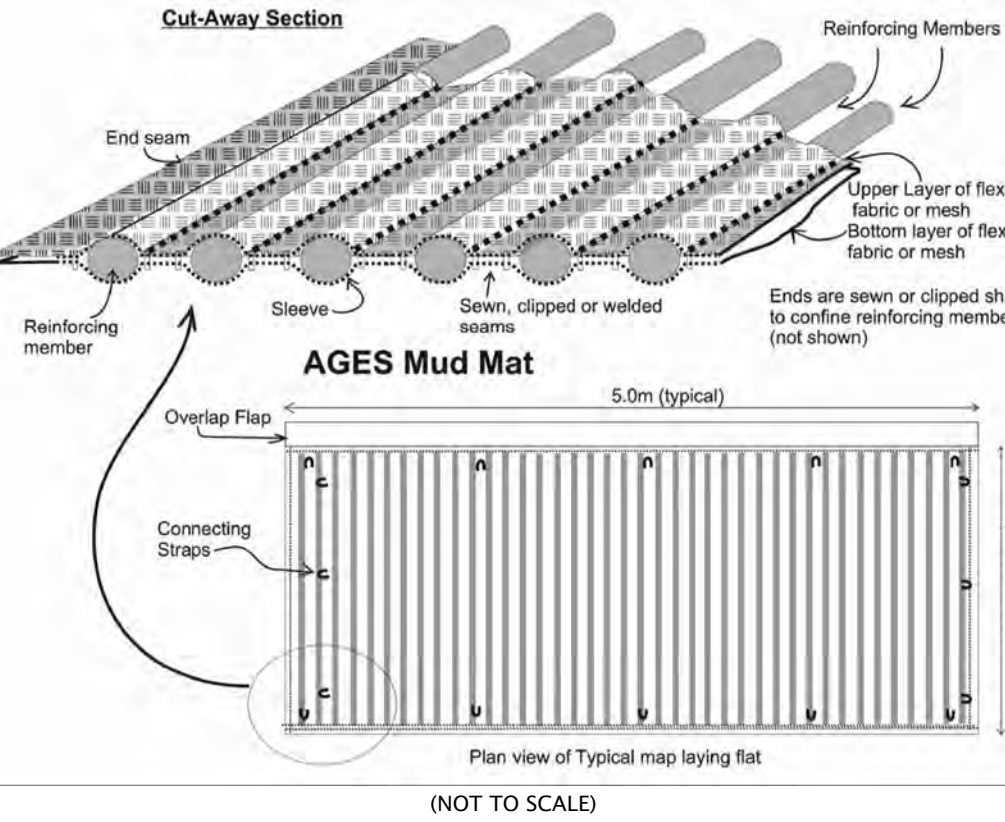
- INSTALLATION:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES IN PUBLIC ROADS.
 2. REMOVE ALL VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA, AND GRADE AND CROWN FOR POSITIVE DRAINAGE.
 3. IF SLOPE TOWARDS THE ROAD EXCEEDS 2%, CONSTRUCT A 6-8 IN. HIGH WATER BAR (RIDGE) WITH 3:1 SIDE SLOPES ACROSS THE FOUNDATION AREA ABOUT 15 FT. FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE ROAD (PRACTICE 3.24) SEE EXHIBIT.
 4. INSTALL PIPE UNDER THE PAD IF NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.
 5. IF WET CONDITIONS ARE ANTICIPATED, PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE STABILITY.
 6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN IN THE EROSION/SEDIMENT CONTROL PLAN, LEAVING THE SURFACE SMOOTH AND SLOPED FOR DRAINAGE.
 7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.



- MAINTENANCE:
1. INSPECT ENTRANCE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER STORM EVENTS OR HEAVY USE.
 2. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
 3. TOP-DRESS WITH CLEAN STONE AS NEEDED.
 4. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED IF THE WATER IS CONVEYED INTO A SEDIMENT TRAP OR BASIN.
 5. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

MUD MATS - ENTRANCE STABILIZATION

MATERIAL: MUD MAT BY AGES, RE-USABLE SOIL STABILIZATION SYSTEM OR APPROVED EQUAL



- INSTALLATION:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES IN PUBLIC ROADS.
 2. REMOVE ALL VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA, AND GRADE AND CROWN FOR POSITIVE DRAINAGE.
 3. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. UNROLL, CONNECT MATS TOGETHER TO FORM AREA OF PROTECTION AND PROPERLY ANCHOR TO GROUND.
 4. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE MUD MAT TO A SEDIMENT TRAP OR BASIN.
 5. MINIMUM SIZE OF THE MAT IS 12 FEET WIDE AND 50 FEET LONG.

- MAINTENANCE:
1. INSPECT ENTRANCE PAD DAILY AND REMOVE BUILT-UP DEBRIS AS NECESSARY.
 2. INSPECT ENTRANCE PAD FOR BREAKS AND TEARS IN THE MATERIAL. REPAIR OR REPLACE AS NECESSARY.
 3. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED IF THE WATER IS CONVEYED INTO A SEDIMENT TRAP OR BASIN.
 4. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

MATERIAL MANAGEMENT MEASURES (HOUSEKEEPING)

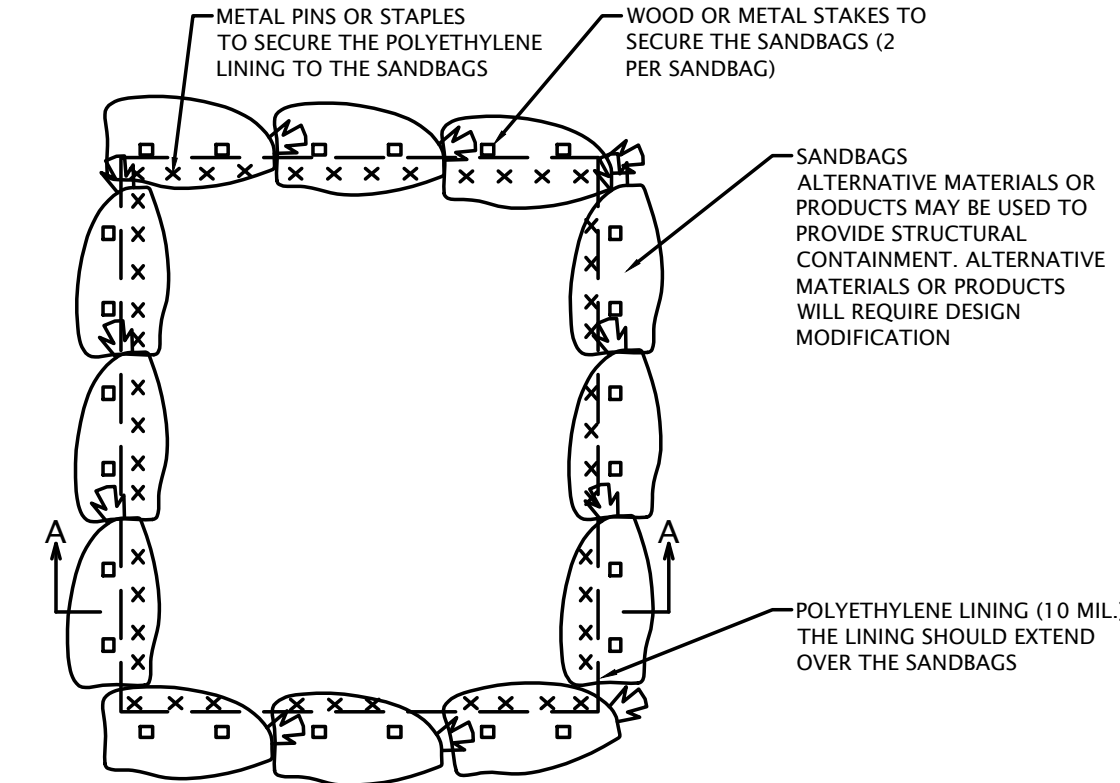
CONCRETE WASHOUT

MATERIALS: MINIMUM OF TEN MIL POLYETHYLENE SHEETING, FREE OF HOLES, TEARS, AND OTHER DEFECTS
ORANGE SAFETY FENCING OR EQUIVALENT
SANDBAGS
METAL PINS OR STAPLES SIX INCHES IN LENGTH MINIMUM.

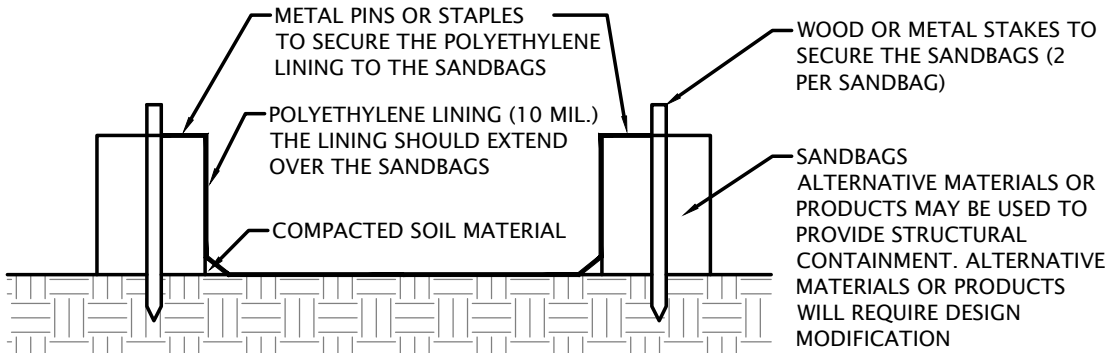
- LOCATION:
1. LOCATE CONCRETE WASHOUT SYSTEMS AT LEAST 50 FEET FROM ANY CREEKS, WETLANDS, DITCHES, KARST FEATURES, OR STORM DRAINS/MANMADE CONVEYANCE SYSTEMS.
 2. LOCATE CONCRETE WASHOUT SYSTEMS IN RELATIVELY FLAT AREAS THAT HAVE ESTABLISHED VEGETATIVE COVER AND DO NOT RECEIVE RUNOFF FROM ADJACENT LAND AREAS.
 3. LOCATE AWAY FROM OTHER CONSTRUCTION TRAFFIC IN AREAS THAT PROVIDE EASY ACCESS FOR CONCRETE TRUCKS.

- INSTALLATION:
1. A BASE SHALL BE CONSTRUCTED AND PREPARED THAT IS FREE OF ROCKS AND OTHER DEBRIS THAT MAY CAUSE TEARS OR PUNCTURES IN THE POLYETHYLENE LINING.
 2. 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.
 3. PLACE FLAGS, SAFETY FENCING, OR EQUIVALENT TO PROVIDE A BARRIER TO CONSTRUCTION EQUIPMENT AND OTHER TRAFFIC.
 4. INSTALL SIGNAGE THAT IDENTIFIES CONCRETE WASHOUT AREAS.
 4. WHERE NECESSARY, PROVIDE STABLE INGRESS AND EGRESS OR ALTERNATIVE APPROACH PAD.

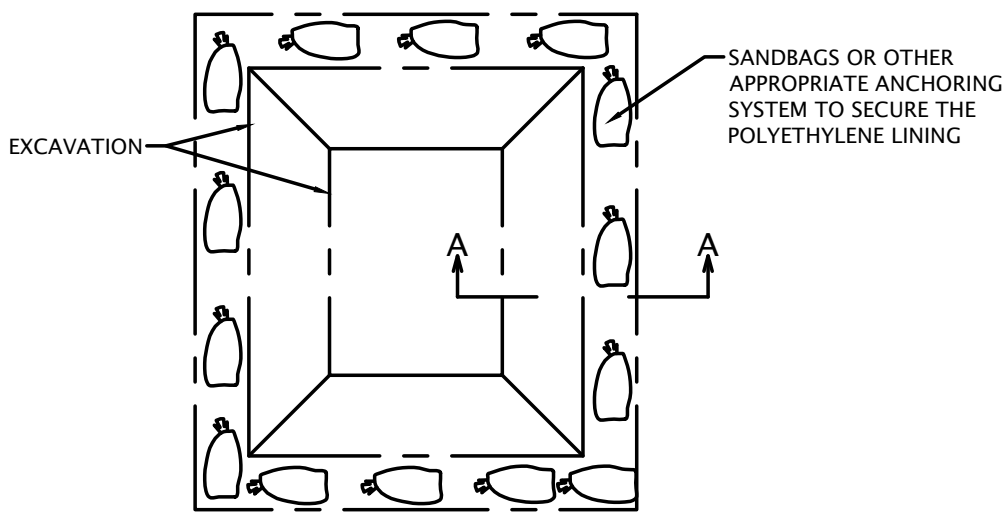
- MAINTENANCE:
1. INSPECT DAILY AND AFTER EACH STORM EVENT.
 2. INSPECT THE SYSTEM FOR LEAKS, SPILLS, AND TRACKING OF SOIL BY EQUIPMENT.
 3. INSPECT THE POLYETHYLENE LINING FOR FAILURE, INCLUDING TEARS AND PUNCTURES.
 4. ONCE CONCRETE WASTES HARDEN, REMOVE AND DISPOSE OF THE MATERIAL.
 5. EXCESS CONCRETE 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.
 6. UPON REMOVAL OF THE SOLIDS, INSPECT THE STRUCTURE. REPAIR THE STRUCTURE AS NEEDED OR CONSTRUCT A NEW SYSTEM.
 7. DISPOSE OF ALL 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 BUILDING. THE AVAILABILITY FOR RECYCLING SHOULD BE CHECKED LOCALLY.
 8. THE PLASTIC LINER SHOULD BE REPLACED AFTER EVERY CLEANING; THE REMOVAL OF MATERIAL WILL USUALLY DAMAGE THE LINING.
 9. THE CONCRETE WASHOUT SYSTEM SHOULD BE REPAIRED OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE.
 10. 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.
 9. 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 THE VIOLATORS AND TAKE APPROPRIATE ACTION.
 10. WHEN CONCRETE WASHOUT SYSTEMS ARE NO LONGER REQUIRED, THE CONCRETE WASHOUT SYSTEMS SHALL BE CLOSED. DISPOSE OF ALL HARDENED CONCRETE AND OTHER MATERIALS USED TO CONSTRUCT THE SYSTEM.
 11. HOLES, DEPRESSIONS, AND OTHER LAND DISTURBANCES ASSOCIATED WITH THE SYSTEM SHOULD BE BACKFILLED, GRADED, AND STABILIZED.



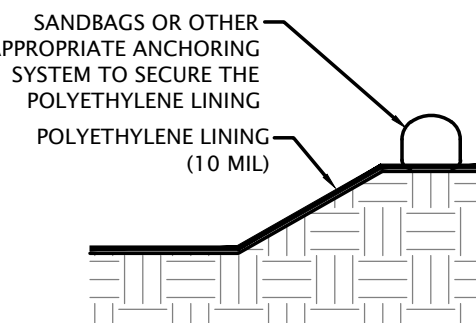
ABOVE GRADE CONCRETE WASHOUT
(NOT TO SCALE)



SECTION A-A
(NOT TO SCALE)



BELOW GRADE CONCRETE WASHOUT
(NOT TO SCALE)



SECTION A-A
(NOT TO SCALE)

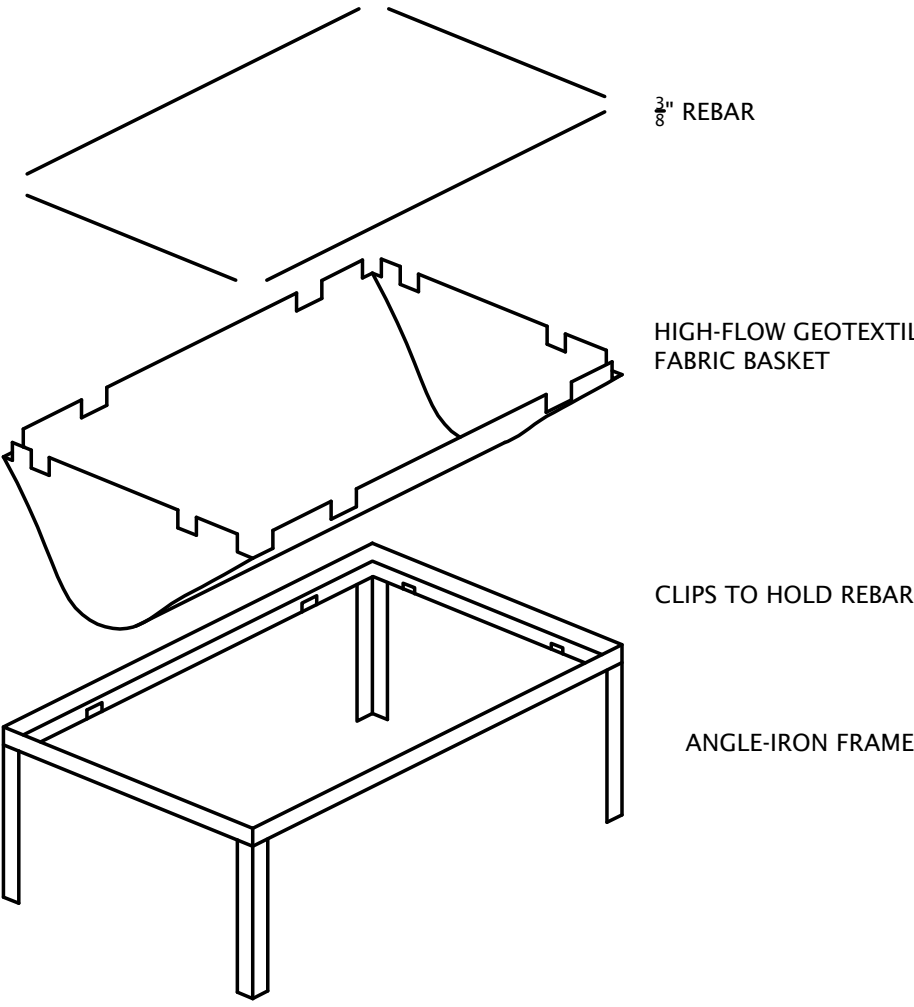
- COMMON CONCERNS:
1. COMPLETE CONSTRUCTION/INSTALLATION OF THE SYSTEM AND HAVE WASHOUT LOCATIONS OPERATIONAL PRIOR TO CONCRETE DELIVERY.
 2. IT IS RECOMMENDED THAT WASHOUT SYSTEMS BE RESTRICTED TO WASHING CONCRETE FROM MIXER AND PUMP TRUCKS AND NOT USED TO DISPOSE OF EXCESS CONCRETE OR RESIDUAL LOADS DUE TO POTENTIAL TO EXCEED THE DESIGN CAPACITY OF THE WASHOUT SYSTEM.
 3. INSTALL SYSTEMS AT STRATEGIC LOCATIONS THAT ARE CONVENIENT AND IN CLOSE PROXIMITY TO WORK AREAS AND IN SUFFICIENT NUMBER TO ACCOMMODATE THE DEMAND FOR DISPOSAL.
 4. INSTALL SIGNAGE IDENTIFYING THE LOCATION OF CONCRETE WASHOUT SYSTEMS.

FRYEFLOW FILTRATION SYSTEMS WASHOUT

MATERIALS: FRYE-FLOW FILTRATION SYSTEMS CONCRETE WASHOUT DEVICE OR APPROVED EQUAL

- INSTALLATION:
1. INSERT REBAR INTO POCKETS OF DEBRIS BAG.
 2. INSTALL FRYEFLOW SYSTEMS DEBRIS BAG INTO ANGLE IRON FRAME.
 3. MAKE SURE REBAR SETS BEHIND REBAR BRACKETS.
 4. MAKE SURE FRAME AND BAG IS SET ON FLAT SURFACE
 5. INSTALL SIGNAGE THAT IDENTIFIES CONCRETE WASHOUT AREAS.
 6. WHERE NECESSARY, PROVIDE STABLE INGRESS AND EGRESS OR ALTERNATIVE APPROACH PAD.

- MAINTENANCE:
1. ONCE DEBRIS BAG IS FULL, USE HANDLES PROVIDED TO LIFT OUT OF FRAME.
 2. REMOVE REBAR FROM SIDE POCKETS.
 3. INSERT NEW DEBRIS BAG.



SPILL PREVENTION AND CONTROL PLAN

1. ONLY APPROVED FUEL STORAGE TANK SHALL BE ALLOWED ON SITE.
2. SPILL KITS MUST BE LOCATED ON-SITE IN THE VICINITY OF THE FUEL STORAGE SINK.
3. MOBILE FUELING SHALL BE USED WHENEVER POSSIBLE.
4. FUELING SHOULD TAKE PLACE IN A CENTRAL LOCATION.
5. EQUIPMENT SHOULD BE KEPT IN GOOD WORKING ORDER, WELL MAINTAINED SO THAT BREAKDOWNS, AND EQUIPMENT FAILURES ARE REDUCED.

FUEL STORAGE

1. ALL FUEL TANKS ON SITE SHALL HAVE SECONDARY CONTAINMENT APPROVED BY IDEM.
2. NO FUEL TANKS ARE TO BE LOCATED WITHIN 100 FEET OF A STORM SEWER INLET.
3. FUEL STORAGE SYSTEM SHALL BE KEPT IN GOOD WORKING ORDER AND SHALL BE SUBJECT TO PERIODIC IDEM INSPECTIONS.
4. SPILL KITS MUST BE LOCATED ON-SITE IN THE VICINITY OF THE FUEL STORAGE SINK.
5. FUEL TANKS SHALL HAVE A SAFETY GAUGE.

STOCKPILES

1. THE CONTRACTOR SHALL LOCATE TOPSOIL STOCKPILES ON-SITE AS NOTED ON THE S.W.P.P.P. AND SHALL ENCOMPASS EACH WITH SEDIMENT DITCH AND SILT FENCE.
2. IN CASES WHERE THE STOCKPILE IS SMALL AND WILL BE REMOVED FROM THE SITE WITHIN 15 DAYS, THE CONTRACTOR CAN COVER THE STOCKPILE WITH A WATERPROOF TARPULINE TYPE COVER.
3. NO OFF-SITE STOCKPILES ARE BEING PROPOSED. ANY OFF-SITE STOCKPILES THAT THE CONTRACTOR UTILIZES SHALL FOLLOW THE SAME REQUIREMENTS AS ON-SITE STOCKPILES. THE CONTRACTOR SHALL IDENTIFY TO THE LOCAL S.W.P.P.P. ENFORCEMENT AGENCY THE LOCATIONS OF ANY OFF-SITE STOCKPILES.

TEMPORARY FACILITIES

1. THE CONTRACTOR SHALL FOLLOW THE PROCEDURES DELINEATED ON THE PLAN IN ORDER TO CONSTRUCT AND MAINTAIN THE FACILITIES SHOWN ON THE DRAWINGS TO CONTROL WATER AND WIND EROSION DURING CONSTRUCTION OF THE PROJECT.
2. ALL DISTURBED SURFACE AREAS (INCLUDING UTILITY TRENCHES) SHALL BE TEMPORARILY GRADED AND/OR DITCHED TO DIRECT WATER RUNOFF FROM SUCH AREAS TO SEDIMENTATION CONTROL DEVICES WHICH WILL PREVENT DISTURBING ERODED WATER CARRYING SOIL FROM ENTERING A WATERCOURSE, SEWER, OR ADJACENT LANDS. SUCH SEDIMENTATION CONTROL DEVICES SHALL INCLUDE BUT NOT BE LIMITED TO PROTECTIVE DITCHES, SEDIMENT TRAPS, SEDIMENT FILTERS, DITCH TRAPS, PIPE BARRIERS, SILE DIKES, CHECK DAMS, CHEMICAL SETTLING FILTERS.
3. UPON COMPLETION OF THE ROUGH GRADING ALL AREAS NOT EFFECTED BY CONSTRUCTION TRAFFIC SHALL BE PERMANENTLY SEEDED, AND EROSION CONTROL BLANKETS INSTALLED ON SIDE SLOPES THAT EXCEED 5:1.
4. UPON COMPLETION OF THE STORM SEWER SYSTEM, INLET PROTECTION SHALL BE INSTALLED, CHECK DAMS INSTALLED IN THE SWALES, AND TEMPORARY RIPRAP WITH SETTLING BASINS PLACED AT THE OUTFALLS OF ALL PIPE.
5. IN ROADWAY AREAS TEMPORARY AGGREGATE SURFACING SHALL BE PLACED IMMEDIATELY AFTER THE BACKFILLING HAS BEEN COMPLETED. POSITIVE DUST CONTROL MEASURES SHALL BE TAKEN AT ALL TIMES.
6. WITHIN 14 DAYS FROM THE DATE A PROJECT IMPROVEMENT IS INSTALLED THE CONTRACTOR SHALL PROCEED WITH FINAL CLEANUP AND RESTORATION OF THE PROJECT AREA DISTURBED INCLUDING POIL AREAS AND COMPLETE SUCH OPERATIONS WITHIN THE NEXT 15 DAYS. IF SEASONAL CONDITIONS PREVENT FINAL CLEANING AND RESTORATION, THE CONTRACTOR SHALL PROCEED WITH TEMPORARY STABILIZATION OF THE DISTURBED AREAS. FINAL CLEANUP AND RESTORATION WILL CONSIST OF FINAL GRADING, APPLYING TOPSOIL, SEEDING AND MULCHING AND/OR SODDING OF ALL DISTURBED AREAS OF THE PROJECT. TEMPORARY STABILIZATION SHALL CONSIST OF ROUGH GRADING THE DISTURBED AREAS TO A CONDITION READY TO RECEIVE TOPSOIL, SEEDING, AND MULCHING IN ACCORDANCE WITH THE TEMPORARY SEEDING SCHEDULE. TEMPORARY STABILIZATION MATERIALS SHALL BE REMOVED, DISPOSED OF, AND FINAL CLEANUP AND RESTORATION SHALL BE COMPLETED NOT LATER THAN 60 DAYS AFTER SEASONAL CONDITIONS ALLOW PERFORMANCE OF THE REQUIRED WORK. THE CONTRACTOR SHALL LOCATE TOPSOIL STOCKPILES ON-SITE AS NOTED ON THE S.W.P.P.P. AND SHALL ENCOMPASS EACH WITH SEDIMENT DITCH AND SILT FENCE. IN CASES WHERE THE STOCKPILE IS SMALL AND WILL BE REMOVED FROM THE SITE WITHIN 15 DAYS, THE CONTRACTOR CAN COVER THE STOCKPILE WITH A WATERPROOF TARPULINE TYPE COVER. NO OFF-SITE STOCKPILES ARE BEING PROPOSED. ANY OFF-SITE STOCKPILES THAT THE CONTRACTOR UTILIZES SHALL FOLLOW THE SAME REQUIREMENTS AS ON-SITE STOCKPILES. THE CONTRACTOR SHALL IDENTIFY TO THE LOCAL S.W.P.P.P. ENFORCEMENT AGENCY THE LOCATIONS OF ANY OFF-SITE STOCKPILES.

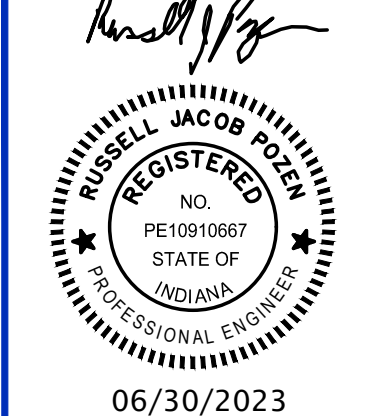
MATERIAL HANDLING AND STORAGE

THE CONTRACTOR SHALL MINIMIZE THE DISTURBANCE OF EXCAVATED SOILS BY MINIMIZING THE NUMBER OF TIMES THE SOIL IS HANDLED. ON-SITE HANDLING OF SOILS WILL OCCUR DURING EXCAVATION, LOADING, AND SPREADING ACTIVITIES. FUEL FOR HEAVY EQUIPMENT AND VEHICLES WILL NOT BE STORED ON THE SITE DURING CONSTRUCTION OPERATIONS. MOBILE FUEL TANKS WILL FUEL HEAVY EQUIPMENT. IN THE EVENT OF A SPILL OR LEAK THE CONTRACTOR SHALL FOLLOW PROPER PROCEDURES TO MINIMIZE CONCERN. THE CONTRACTOR SHALL:

1. TAKE IMMEDIATE MEASURES TO CONTROL AND CONTAIN THE SPILL TO PREVENT RELEASE INTO SEWERS OR SURFACE WATERS.
2. NOTIFY THE LOCAL FIRE DEPARTMENT IMMEDIATELY AT 9-1-1.
3. NOTIFY THE FEDERAL EMERGENCY SPILL HOTLINE AT 1-800-424-8802 WITHIN 2 HOURS IF THE AMOUNT IS ABOVE A REPORTABLE QUANTITY OR ANY AMOUNT ENTERS A WATERWAY OR STORM SEWER.
4. NOTIFY THE INDIANA EMERGENCY RESPONSE HOTLINE AT 1-888-233-7745.
5. FOLLOW THE GUIDELINES FOR HANDLING THE SPILL AS OUTLINED IN THE INCLUDED MATERIAL SAFETY DATA SHEETS.



1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-2710
F: (219) 662-2740
www.dvgteam.com



Crew Carwash
11700 Exit 5 Parkway
Fishers, IN 46037

DATE:	REVISIONS AND NOTES:

111 Ridge Road Munster
Crew #63
Stormwater Pollution
Prevention Plan Details

DESIGN BY	DATE
DVG	05/19/23
PROJECT NO.	22-0538
C304	



Crew Carwash, Inc.
11700 Exit Five Parkway
Fishers, IN 46037

August 22, 2023

Jill DiTommaso

Town of Munster

1005 Ridge Road Munster, IN 46321

Re: Crew Carwash Munster 111 Ridge Rd Munster IN 46321

Dear Ms. DiTommaso:

Please accept this letter as an executive narrative summary of the project and a list of all the variances that we are requesting.

- Plans for offsite dumpster
- Landscape percentages

Property Description and Background

This project is located on the Munster Carwash site located on Ridge Rd and Forest Ave. This project consists of a one-story carwash tunnel with approximately square feet of 5,780 total floor area. All traffic will enter at the south end of the property from Ridge Rd. Customers will enter one of three proposed lanes where they will select and pay for their wash.

Please contact me with any questions about the application enclosed or the enclosed materials.

Sincerely,

Katherine Rayner

Crew Carwash
Development Project Manager
Email: KRayner@crewcarwash.com
Cell: 317-809-5161



Petition BZA _____ - _____

Date: _____

Application Fee: \$ _____

Sign Fee: \$ _____

Town of Munster Board of Zoning Appeals Petition Application

OWNER INFORMATION:

Dahm LLC
Name of Owner

317-572-2408
Phone Number

11700 Exit 5 Pkwy Fishers IN 46037
Street address, City, ST, ZIP Code

KRAYNER@CREWCARWASH.COM
Email address

APPLICANT OR PETITIONER INFORMATION (if different than above):

Katherine Rayner
Name of Applicant/Petitioner

317-572-2408
Phone Number

11700 Exit 5 Pkwy Fishers IN 46037
Street address, City, ST, ZIP Code

KRAYNER@CREWCARWASH.COM
Email address

PROPERTY INFORMATION:

Crew Carwash
Business or Development Name (if applicable)

111 Ridge Rd. Munster IN 46321
Address of Property or Legal Description

CD4-A - carwash use
Current Zoning

APPLICATION INFORMATION:

Please select what this Application is for:

☒ **Variance**

If yes, select one of the following:

☐ **Use**

☒ **Developmental Standards**

☐ **Conditional Use**

☐ **Administrative Appeal**

Brief Description of Project and List of Variances or Conditional Uses Being Requested (if applicable):

Remodel of existing carwash facility

Variances requesting:

1. offsite dumpster

2. landscape percentages

Gabriella Freitas
Name of Registered Engineer, Architect or Land Surveyor

219-281-3103
Phone Number

1155 Troutwine Rd. Crown Point IN 46307
Street address, City, ST, ZIP Code

gmfreitas@dvgtteam.com
Email address



Petition BZA _____ - _____

Town of Munster Board of Zoning Appeals Application Signature Page

I hereby authorize Katherine Rayner to act on my behalf as my agent in this petition and to furnish, upon request, supplemental information in support of this petition application.

Wm J. Dahn 8/22/23
Signature of Owner Date

Katherine Rayner 8/22/23
Signature of Applicant Date

REQUIRED ATTACHMENTS

Required Attachments for Board of Zoning Appeals Applications

To ensure that adequate information is provided to the BZA, please check off each of these items and provide documentation to the Community Development Department at the time of submittal of the application.

ALL APPLICATIONS	Included	N/A
Narrative statement describing project	✓	
Property owner consent (Signature page)	✓	
Proof of Ownership (e.g. copy of tax bill)	✓	
Plat of Survey depicting current conditions	✓	
Site Plan containing the following:		
Boundary identification	✓	
Fire hydrant locations	✓	
Accessory structures	✓	
Parking lot design	✓	
Utility location	✓	
Building footprints	✓	
Proposed curb cuts	✓	
Drainage/detention plans	✓	
Traffic circulation	✓	
Ingress/egress locations	✓	
Major topographic information	✓	
Infrastructure improvements	✓	
Conditions of Approval Form (Note: complete the form specific to your petition)*	✓	
Any other information that the BZA may find useful in determining whether the application is merited.		

* Unique conditions have been established for special use permits for public garages, gas filling stations, used car lots, garden centers, massage parlors, adult bookstores, tattoo parlors, adult cabarets, and outdoor dining areas. Community Development staff will advise potential applicants of these at the pre-application meeting.

NOTE: If you checked any exhibits "N/A", please explain:

DEVELOPMENTAL VARIANCE CONDITIONS OF APPROVAL

The Munster Board of Zoning Appeals is authorized to hear petitions for developmental standards variances and to approve or deny. The Board of Zoning Appeals may also impose reasonable conditions and restrictions. Indiana Code 36-7-4-918.5 lists the legal criteria for a developmental standards variance:

1. The approval will not be injurious to the public health, safety, morals, and general welfare of the community. Explain why this statement is true in this case:

Dumpster enclosure will not be injurious to public health due to having a safe and accessible access point on the property.

Landscaping will be added all around the property and enclosed by curbing.

2. The use and value of the area adjacent to the property included in the variance will not be affected in a substantially adverse manner. Explain why this statement is true in this case:

The value of the area will increase because the new state of the art crew carwash will replace the existing abandoned old wash.

3. The strict application of the terms of the zoning ordinance will result in practical difficulties in the use of the property. Explain why this statement is true in this case:

The existing lot size hinders modern and safe carwash development, therefore this development needs these variances.

Attach additional pages if necessary

Town of Munster
Legal Notice
BOARD OF ZONING APPEALS PETITION NO. _____

Notice is hereby given that the Town of Munster, Lake County, Indiana, will hold a public hearing in the Munster Town Hall, 1005 Ridge Road, at 6:45 p.m. on Sept 12, 2023, to consider the following petition, in accordance with the Munster Zoning Ordinance:

- (1) offsite dumpster
- (2) landscape percentage

Common Address and/or Description:

Chew Carwash
111 Ridge Rd. Munster IN 46321

Legal Description:

Parcel 1 (Per doc. no. 2022-527567, Rec. 7/14/2022.
Lot 25 and 26, Except the North 114.35 feet thereof, and
all of lots 27, 28, and 29, in block 4, in Broadmoor, in the town
of Munster, as per plat thereof recorded in plat book 18,
page 3, in the office of the recorder of lake county, Indiana.

Anyone interested in the Petition may appear in person or by agent at the public hearing. Written objections filed with the Board of Zoning Appeals Executive Secretary, Thomas Vander Woude, before the hearing will be considered. The hearing may be continued from time to time as may be found necessary. All information concerning such petition is on file in the Community Development Office, 1005 Ridge Road, Munster, Indiana, 46321, for public examination.

Thomas Vander Woude, Executive Secretary

Town of Munster

Notice to Owners of Affected Property **BOARD OF ZONING APPEALS PETITION NO. _____**

Katherine Rayner
Name of Petitioner

11700 Exit 5 Pkwy Fishers IN 46037
Address

Notice is hereby given that at the regularly scheduled meeting of Sept 12, 2023,
at 6:45 p.m., at the Munster Town Hall, 1005 Ridge Road, Munster, Indiana, the Board of Zoning Appeals
will conduct a public hearing on the following petition:

Crew Carwash

Anyone interested in the petition may appear in person or by agent. Written objections, filed with the
Board of Zoning Appeals Secretary before the hearing, will be considered. The hearing may be continued
from time to time as may be found necessary. All information concerning the petition is on file in the
Community Development Office, 1005 Ridge Road, Munster, Indiana, 46321, for public examination.

Katherine Rayner 8/22/23
Signature of Petitioner Date