

INDUSTRIAL SITE PLAN FOR
PHIL McNEARNEY
 A DEVELOPMENT PERMIT FOR CONSTRUCTION FOR
 RPP3905000060A AKA McNEARNEY MILL, LOT 6
 PONDERAY, BONNER COUNTY, IDAHO 83852



VICINITY MAP
 N.T.S.

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GENERAL NOTES

1. THESE PLANS ARE FOR THE CONSTRUCTION OF SHOPS IN THE INDUSTRIAL ZONE OF PONDERAY, IDAHO.
2. THE BUILDING OUTLINE AS SHOWN HEREON IS TO BE LOCATED IN THE FIELD BY A LICENSED PROFESSIONAL LAND SURVEYOR.
3. THESE PLANS ARE FOR SITE GRADING, STORMWATER AND EROSION CONTROL AS SHOWN.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE REQUIREMENTS OF THE CITY OF PONDERAY, AND ANY OTHER DEVELOPMENT STANDARDS.
5. ALL WORK SHALL CONFORM TO THE "IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION," 2020 OR MOST RECENT EDITION, IN CASE OF CONFLICT, CITY OF PONDERAY STANDARDS SHALL PREVAIL.
6. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANIES PRIOR TO STARTING WORK NEAR ANY FACILITIES AND SHALL COORDINATE HIS WORK WITH COMPANY REPRESENTATIVES. ALL UTILITY SERVICES SHALL BE INSTALLED UNDERGROUND, FOR EXISTING UTILITY LOCATIONS, CONTACT CALL BEFORE YOU DIG AT 1-800-626-4950 AT LEAST 48 HOURS PRIOR TO STARTING ANY EXCAVATIONS.
7. AN APPROVED PERMIT SHALL BE OBTAINED FROM THE CITY OF PONDERAY PLANNING DEPARTMENT AND WORK SHALL NOT BEGIN UNTIL A NOTICE TO PROCEED IS RECEIVED. THE CONTRACTOR SHALL NOTIFY THE PONDERAY CITY PLANNING DEPARTMENT 48 HOURS PRIOR TO STARTING WORK.
8. THE CONTRACTOR SHALL HAVE AN APPROVED SET OF IMPROVEMENT PLANS AND APPROVAL LETTER ON THE JOB SITE AT ALL TIMES.
9. WHERE TRENCHES ARE WITHIN PUBLIC EASEMENTS, COMPACTION TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD BY A QUALIFIED LABORATORY AND PROPERLY CERTIFIED TECHNICIAN WHO WILL CERTIFY THAT TRENCH BACKFILL WAS COMPACTED AS REQUIRED IN ACCORDANCE WITH THE ISPWC OR PONDERAY REQUIREMENTS.
10. ALL TESTING REQUIRED WILL BE AT THE EXPENSE OF THE CONTRACTOR.
11. EXISTING DRAINAGE FEATURES WILL BE PRESERVED OR RESTORED SUCH THAT NO BLOCKAGE OF EXISTING RUNOFF WATER WILL PERMANENTLY OCCUR.
12. ALL GREEN/LANDSCAPE SPACE TO BE GRASS, BUSHES AND TREES.
13. CONTRACTOR SHALL PROVIDE DUST CONTROL OR ABATEMENT MEASURES SUCH AS WATER SUPPRESSION, SCREENING & ENCLOSURE AND GENERAL SITE HOUSE KEEPING DURING CONSTRUCTION OF PROJECT.
14. EXISTING UTILITIES SHALL BE LOCATED, MARKED, AND PROTECTED DURING COURSE OF CONSTRUCTION. IF ANY DAMAGE TAKES PLACE, THE CONTRACTOR SHALL NOTIFY UTILITY COMPANY.
15. NO REVISIONS SHALL BE MADE TO THESE PLANS WITHOUT THE APPROVAL OF THE ENGINEER.

SURVEY NOTES

1. THIS PLAN WAS PREPARED BY A BOUNDARY DONE BY GLAHE & ASSOCIATES AS WELL AS INFORMATION TAKEN FROM THE BONNER COUNTY GIS WEBSITE.
2. THIS MAP DOES NOT REPRESENT AN ACTUAL SURVEY BUT WAS ASSEMBLED FROM INFORMATION GATHERED FROM GLAHE & ASSOCIATES AND COLLECTED TOPOGRAPHY. REFER TO THE RECORDS OF SURVEY BY GLAHE & ASSOCIATES FOR MORE DETAILED PROPERTY BOUNDARY, ELEVATION MONUMENTATION, AND ADDITIONAL INFORMATION.
3. ELEVATIONS SHOWN ARE BASED ON THE GLAHE SURVEY USING THE NAVD83 DATUM AS RECEIVED AND IS INTENDED TO SERVE AS A GRADING, STORMWATER, AND EROSION PLAN FOR A DEVELOPMENT PERMIT.
4. EXISTING PROPERTY CORNERS AND SURVEY MONUMENTS SHALL BE LOCATED, MARKED, AND PROTECTED DURING THE COURSE OF CONSTRUCTION. ANY DAMAGE OR OBLITERATED CORNERS OR MONUMENTS SHALL BE RE-ESTABLISHED AT THE CONTRACTOR'S EXPENSE BY A PROFESSIONAL LAND SURVEYOR, LICENSED IN THE STATE OF IDAHO, PRIOR TO FINAL ACCEPTANCE.

SITE PLANNING DATA

<p>TOTAL LOT AREA: 26,125 SF 0.6 ACRES = 26,125 SF LOT COVERAGE: 8,148 (31%) BLDG ROOF 1 = 3,749 SF (43'X83'+12'X15') BLDG ROOF 2 = 3,749 SF (43'X83'+12'X15') OPEN SPACE: 26,125 SF - 8,148 SF = 17,977 SF (69%)</p> <p>GREEN SPACE STORMWATER TREATMENT AND MISCELLANEOUS LANDSCAPE AREA 5,517 SF (20%)</p> <p>PARKING LOT AREA: 11,689 SF ROAD AREA ON SITE: 771 SF PARKING SPOTS REQUIRED 2,224 SF / 200 SF = 11 COMMERCIAL SPOTS 4,670 SF / 1,000 SF = 5 INDUSTRIAL SPOTS 16 TOTAL PARKING SPOTS PROPOSED 14 STANDARD SPOTS 5 INTERNAL SPOTS 1 ACCESSIBLE SPOTS 1 LOADING ZONE 20 TOTAL</p>	<p>TOTAL FLOOR SPACE: 5,600 SF + 3,570 SF = 9,170 SF BUILDING 1 FLOOR SPACE: 5,600 SF GROUND FLOOR SPACE (50 FT X 80 FT = 4,000 SF) COMMERCIAL - BATH/OFFICE: 2 (50'x16) = 1,600 SF INDUSTRIAL - (SHOP/BAY AREA): 4,000 SF - 1,600 SF = 2,400 SF UPSTAIRS STORAGE: 2 (50'x16) SF = 1,600 SF</p> <p>BUILDING 2 FLOOR SPACE: 3,344 SF GROUND FLOOR SPACE (40 FT X 68 FT + 12 FT X 52 FT) = 3,344 SF INDUSTRIAL - (SHOP/BAY AREA): 40' X 68' = 2,720 SF COMMERCIAL - BATH/OFFICE: 12' x 52' = 624 SF</p>
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SITE SPECIFIC NOTES

1. 5.25' (~SIX FOOT) REDUCED SETBACK APPROVED ON LOT 6 FROM ACCESS EASEMENT. NORTHERNMOST BUILDING WILL HAVE A 19.75'± (EIGHTEEN FOOT) SETBACK OFF THE STREET EASEMENT FOR COLVILLE LANE.
2. 1' REDUCED SETBACK REQUEST WAS APPROVED FROM WESTERN PROPERTY LINE IN 2022. NORTHERNMOST BUILDING WILL HAVE A 9'+ (NINE FOOT) SETBACK FROM THE WESTERN PROPERTY LINE (SHARED WITH LOS ENTERPRISES LLC).
3. ALL ADDITIONAL STORMWATER RUNOFF IS ACCOUNTED FOR IN STORMWATER PLAN.
4. ANY ADDITIONAL OR LOST PARKING WOULD BE ACCOUNTED FOR IN LOCATIONS SPECIFIED BY THE ENGINEER AND CITY AT THE TIME OF BUILDING PERMITS.
5. ALL STORMWATER RUNOFF AND SNOW SHED WILL BE DIRECTED TO STORMWATER TREATED AREAS WITHIN THE PROPERTY BOUNDARIES, EXCLUDING STORMWATER RUNOFF AND SNOW SHED GENERATED BY COLVILLE LANE'S INGRESS & EGRESS AND UTILITY EASEMENTS.
6. GREEN SPACE WITHIN UTILITY EASEMENTS WERE INCLUDED IN CALCULATION.

LEGEND

—	PROPERTY PARCEL	—	BOTTOM OF FACILITY
—	PROPOSED BUILDING	—	PERMANENT POOL
—	SETBACK LINE	—	25' - 24' HR ELEVATION
—	EASEMENT LINE	—	
—	EXISTING 8" WATER MAIN	—	
—	EXISTING WATER SERVICE STUB	—	
—	PROPOSED WATER CONNECTION	—	
—	UNDERGROUND POWER LINES	—	
—	DHP	—	
—	GAS LINE	—	
—	OVERHEAD POWER LINES	—	
—	EXISTING 3" FORCE MAIN	—	
—	PROPOSED SEWER CONNECTION	—	
—	DRAINAGE DITCH/FLOW LINE	—	
—	EXISTING FENCE	—	
—	PROPOSED SITE OBLUSCURING FENCE	—	
—	PROPOSED ROOF OUTLINE	—	
○	PROPERTY CORNER, CALCULATED POINT (EASEMENT)	—	EXISTING GRAVEL SURFACE PARKING
—	GREEN SPACE (GRASS & NATIVE VEGETATION)	—	GRAVEL ROAD
—	EXISTING STORMWATER FACILITY	—	
—	FUTURE STORMWATER FACILITY	—	
—	PROPOSED STORMWATER FACILITY FOR PROJECT	—	
—	PROPOSE GRAVEL PARKING SURFACE	—	
—	PROPOSED BUILDING	—	
—	EXISTING BUILDING	—	
—	PROPOSED WATER METER	—	

KEYNOTES

1. PROPERTY BOUNDARY
2. RETAIN & PROTECT EXISTING SURVEY MONUMENTS
3. EXISTING STORMWATER EASEMENT
4. EXISTING 20' WIDE INGRESS, EGRESS & UTILITY EASEMENT
5. EXISTING UTILITY EASEMENT
6. EXISTING 1" WATER (STUB)
7. EXISTING 8" C900 WATER MAIN
8. EXISTING FIRE HYDRANT LOCATION (SANDPOINT WATER)
9. EXISTING DRY UTILITIES - ELECTRICAL & GAS (AVISTA)
10. EXISTING 3" FORCE MAIN (KPSD) & PRESSURE CLEANOUT MANHOLE
11. EXISTING PRESSURE SEWER BROOKS BOX CONNECTED TO EXISTING 3" FORCE MAIN (KPSD)
12. BUILDING SETBACK PER CITY CODE
- 13A. EXISTING BUILDING 1 (CONSTRUCTED IN 2022)
- 13B. BUILDING 2
14. ROOF OUTLINE (1.5' OVERHANG)
15. PARKING LOT (GRAVEL)
16. PARKING AREAS (NOT TO BE STRIPED)
17. ACCESSIBLE PARKING SPOT (NOT TO BE STRIPED)
18. PROPOSED LOADING ZONE/ACCESSIBLE AISLE
19. INTERNAL PARKING AREAS (10' X 20' = 200 SF)
20. TRASH ENCLOSURE (INSIDE BUILDING)
21. LIGHTING
22. DRY UTILITIES ELECTRICAL & GAS CONNECTION (AVISTA)
23. NEIGHBORING GREENSPACE
24. 1" WATER SERVICE CONNECTIONS TO SANDPOINT WATER
 - (1) NEW METER (TO BE ADDED)
 - (1) EXISTING WATER STUBS TO BE USED
 - (1) PROPOSED WATER STUB TO BE CONNECTED TO MAIN (SEE DETAIL B/3)
 *COORDINATE SETTING OF WATER SERVICE AND METERS WITH THE CITY OF SANDPOINT. INFORM THE CITY OF SANDPOINT 48 HOURS IN ADVANCE OF SETTING.
25. PRESSURE SEWER CONNECTION TO KPSD (TO BE DESIGNED BY PLUMBER)
 DUPLEX PUMP BASIN (30" ADS OR APPROVED EQUAL)
 4" GRAVITY CONNECTIONS (CONNECTS BUILDING TO BASINS)
 2" FM (FROM BASIN TO MAIN) (SEE DETAIL D/3)
 *IF LOCATED IN TRAFFIC AREA, TRAFFIC RATED BASINS MUST BE USED.
26. EXISTING FENCE AND STORMWATER DITCH
27. EXISTING STORMWATER FACILITY (COLVILLE LANE TREATMENT AREA) LOCATED IN EXISTING UTILITIES INSTR NO. 955611. (TO BE MODIFIED - REDIRECTED TO ROCK INFILTRATION CHANNEL SOUTH & WET POND)
28. STORMWATER TREATMENT & RETENTION AREA (WET POND)
29. STORMWATER INFILTRATION ROCK CHANNEL (SEE DETAIL B/2 AND SHEET 4) (190' LENGTH, 3' WIDTH, 3.25' AVG DEPTH)
30. 25' DRIVE ISLE
31. PROPOSED CPP UNDERDRAINS (STORMWATER COLLECTION NETWORK) SEE SHEET 2 AND SHEET 4
32. PROPOSED STORMWATER STRUCTURES (4) 18" PVC CATCH BASINS (NDS OR EQUAL)
33. WET POND DISCHARGE - CONNECT TO HISTORIC DRAINAGE DITCH BYPASS DITCH TO BE CONSTRUCTED PER CITY APPROVED PLAN (SP18-045) BY OTHERS AS ENFORCED BY CITY OF PONDERAY. POND I.E. OUT: 2131.00± (SEE DETAIL F/2)

REVISION

NO.	DATE	DESCRIPTION
1	12/07/24	REPLACES SHEET 1 WITH CHANGES
2	12/14/24	REPLACES SHEET 1A WITH CHANGES
3	12/16/24	REPLACES SHEET 1B WITH CHANGES
4	12/18/24	REPLACES SHEET 1C WITH CHANGES TO ADDRESS AGENCY COMMENTS
5	12/21/24	REPLACES SHEET 1D WITH CHANGES
6	12/27/24	REPLACES SHEET 1E WITH CHANGES

TITLE SHEET - SITE PLAN

OWNER: PHIL McNEARNEY

PROJECT: McNEARNEY SHOP 2 PONDERAY, IDAHO

811 Know what's below. Call before you dig.

PROFESSIONAL ENGINEER REGISTERED STATE OF IDAHO 10086 DANIEL W. LARSON

PROJECT NO: 2194
 DRAWN BY: JCE/DWL
 CHECKED BY: DMW
 SCALE: 1"=20'
 (WALD FOR 24"X36" OR 22"X34")

SHEET 1E OF 4

STORM WATER & SNOW MANAGEMENT

IMPERVIOUS AREA
 ROOF AREA: 4,399 SF + 3,749 SF = 8,148 SF
 PARKING AREA: 11,689 SF (NOT UNDER ROOF)
 EXISTING PRIVATE ROAD ON SITE (REPUBLIC): 771 SF
 TOTAL PROPOSED IMPERVIOUS AREA ON PROPERTY: 20,608 SF
 TOTAL GREEN SPACE ON SITE: 5,517 SF
 TOTAL SITE AREA: 26,125

ADDITIONAL TREATED AREA:
 PRIVATE ROAD OFF PROPERTY TO BE TREATED (REPUBLIC & COLLVILLE): 1,892 SF
 TOTAL ROAD AREA TREATED = 1,892 SF + 771 SF = 2,663 SF
TOTAL IMPERVIOUS AREA:
 8,148 + 11,689 + 771 + 1,892 = 22,500 SF (AIMP)
 TOTAL AREA TREATED: 28,017 SF

STORMWATER MANAGEMENT
 REFER TO THE STORMWATER REPORT PROVIDED FOR MORE INFORMATION.
 RUNOFF CALCULATIONS WERE DETERMINED BY SCS TR-20 METHOD (HYDROCAD)

SNOW MANAGEMENT
 AVERAGE ANNUAL SNOWFALL: 4.8 FT (58 INCHES)
 PROPOSED COMPACTED TO FRESH SNOW RATIO: 5:1
 AVERAGE FRESH SNOW TREATMENT VOLUME (FSV): 22,500 SF (AIMP) X 4.8 FT = 108,000 CF
 REQ/COMPACTED SNOW TREATMENT VOLUME: FSV/5 = 21,600 CF
 PROPOSED SNOW STORAGE AREA: 5,517 SF (GREENSPACE)
 PEAK SNOW HEIGHT IN GREENSPACE: 3.92 FT

- GENERAL STORMWATER NOTES**
- EXISTING DRAINAGE FEATURES WILL BE PRESERVED OR RESTORED SUCH THAT NO BLOCKAGE OF EXISTING RUNOFF WATER WILL PERMANENTLY OCCUR.
 - RUNOFF FROM IMPERVIOUS SURFACES SHALL BE COLLECTED AND CONVEYED TO TREATMENT AREAS.
 - CONVEYANCE FACILITIES SHALL CONSIST OF ROCK LINED FLOWLINE, AND SWALES AS NOTED ON THESE PLANS.
 - THERE IS ONE (1) OUTFALL LOCATION THAT DISCHARGE FROM THE TREATMENT AND CONVEYANCE FACILITIES.
 - EXISTING SOUTH COLLECTION DITCH - HALF THE DRAINAGE FLOWS WEST CONNECTS TO DRAINAGE ALONG MCNEARNEY ROAD. OTHER HALF FLOWS EAST CONNECTS TO DRAINAGE ALONG MCGHEE PROPERTY TOWARDS VERMEER.
 - PROTECT THE OUTLETS WITH ROCK, VEGETATION, SLASH, OR A COMBINATION THEREOF. TO REDUCE OUTLET VELOCITIES AND POTENTIAL FOR EROSION.

- STORMWATER FACILITY O&M REQUIREMENTS**
- GENERAL REQUIREMENTS:**
 - INSPECT CONSTRUCTED FACILITIES MONTHLY AND BETWEEN LARGE STORM EVENTS FOR THE FIRST YEAR. AFTER IT IS ESTABLISHED AND WORKING AS INTENDED, INSPECT ONCE IN THE SPRING AND FALL. INSPECT FOR FAILURES, EROSION, DISPLACED ROCK PROTECTION, DEAD VEGETATION, AND SEDIMENT BUILDUP. REPAIR AND/OR REPLACE AS NECESSARY.
 - WETPOND (IDAO BMP 22)**
 - INSPECT FOR DEAD VEGETATION. REMOVE DEAD ZONE, RE-VEGETATE AND DETERMINE CAUSE OF DEAD VEGETATION, CHOKING ON SEDIMENT, LACK OF NUTRIENTS, OR INADEQUATE WATERING OR SUNLIGHT?
 - INSPECT FOR EXCESSIVE SEDIMENTATION. DETERMINE SOURCE OF SEDIMENTATION, MITIGATE, OR INSTALL SEDIMENT TRAP.
 - IMPOUNDMENT STRUCTURES SHOULD BE REGULARLY INSPECTED FOR SIGNS OF FAILURE, SUCH AS SEEPAGE OR CRACKS IN THE BERM. INSPECT THE STRUCTURES FOR ANIMAL BURROWS, EROSION, AND/OR LOSS OF MATERIAL.
 - REPAIRS AND MAINTENANCE SHOULD BE MADE IMMEDIATELY TO PRESERVE THE INTEGRITY OF THE BERM INCLUDING STABILIZING THE SLOPE, FILLING ANY BURROW HOLES, REPAIRING CRACKS, AND STOPPING SEEPAGE.
 - WEED, MOW, AND TRIM VEGETATION ON AND AROUND THE POND TO MAINTAIN ITS HEALTH AND AESTHETIC VALUE.
 - THE INLET AND OUTLET SHOULD BE INSPECTED FOR EROSION OR UNDERCUTTING, AND CLOGGED OR DAMAGED PIPES, EROSION CONTROL, ENERGY DISSIPATION DEVICES, AND PIPES SHOULD BE REPLACED, CLEANED, OR REPAIRED AS NECESSARY.

EROSION CONTROL MANAGEMENT
 RECOMMENDED EROSION CONTROL ~ 120 LF
 (COMPOST BERMS OR FIBER ROLLS IF NEEDED. SEE DETAILS D/2, E/2)
 * CONTRACTOR TO VERIFY EROSION CONTROL LOCATIONS WITH OWNER AND ENGINEER.

EROSION CONSTRUCTION SCHEDULE	
STAKE FOUNDATION - PERMITTING PROCESS	AUG-24
PLACEMENT OF TEMPORARY EROSION CONTROLS	AUG-24
ROUGH GRADING (SWALES/GIAs)	AUG-24
PHASE 2 BUILDING CONSTRUCTION AND GRADING	AUG-24
RESEED SLOPES & DISTURBED AREAS	OCT-24

- TEMPORARY STORMWATER EROSION CONTROL NOTES**
- PRIOR TO CONSTRUCTING THE STORMWATER COLLECTION, CONVEYANCE, DETENTION, AND TREATMENT FACILITIES; ALL TEMPORARY EROSION CONTROL FEATURES SHALL BE INSTALLED AND MAINTAINED. DURING CONSTRUCTION, TO PREVENT CONSTRUCTION RELATED RUNOFF AND SEDIMENT MIGRATION OFF-SITE.
 - BARRIERS SHALL BE PLACED PERPENDICULAR TO THE DIRECTION OF FLOW. CONSTRUCT SILT FENCES, COMPOST BERMS, OR FIBER ROLLS WHERE OVERLAND RUNOFF MAY LEAVE THE CONSTRUCTION AREA OR ENTER NEIGHBORING PROPERTIES.
 - MULCHING OF DISTURBED AREAS CAN BE DONE WITH HAY, STRAW, WOOD CHIPS, GRASS CLIPPINGS, OR ROCK. SLOPES STEEPER THAN 2:1 MAY REQUIRE TACKING AGENTS TO HOLD MULCH IN PLACE.
 - LEAVE TEMPORARY STORMWATER AND EROSION CONTROL MEASURES IN PLACE UNTIL VEGETATION HAS BEEN RE-ESTABLISHED.

- PERMANENT EROSION CONTROL NOTES**
- INSTALL STORMWATER COLLECTION, CONVEYANCE, DETENTION, AND TREATMENT FACILITIES AS SHOWN ON THESE PLANS.
 - IF TREATMENT FACILITIES SHOW SIGNS OF EXCESSIVE SEDIMENTATION DETERMINE THE SOURCE OF EROSION.
 - RE-VEGETATE DISTURBED AREAS, LISTED IN THE STORMWATER TREATMENT AND CONVEYANCE AREA, WITH PLANTS LISTED IN BONNER COUNTY CODE, TITLE 12, APPENDIX B (NORTH IDAHO NATIVE AND BENEFICIAL PLANT LIST).
 - IF SLOPES ARE TOO STEEP TO RE-VEGETATE, APPLY ROCK MULCH OR RIPRAP FOR SLOPE PROTECTION.
 - ADDITIONAL BMPs FOR EROSION CONTROL AND APPLICATION RATES CAN BE FOUND IN THE 2020 VERSION OF IDAHO'S CATALOG OF STORM WATER BEST MANAGEMENT PRACTICES. THE DOCUMENT CAN BE FOUND ON THE IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY'S "STORM WATER" WEB PAGE.

- GRADING NOTES**
- LOCATIONS, TOPOGRAPHY AND ELEVATIONS SHOWN ARE APPROXIMATE AND SERVE TO ESTABLISH GRADES AND AN ESTIMATE OF GRADING QUANTITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ALL UTILITIES ON-SITE PRIOR TO COMMENCING GRADING WORK.
 - PRIOR TO ROUGH GRADING, THE CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION STORMWATER CONTROL MEASURES (BMPs) TO PREVENT DAMAGE TO ADJACENT PROPERTIES.
 - PROPOSED CUT/FILL ZONES ARE RECOMMENDED TO HAVE A 2:1 SLOPE OR FLATTER TO MEET CITY REQUIREMENTS AND TO AID WITH RE-ESTABLISHING NATIVE VEGETATION.
 - AREAS TO RECEIVE FILL SHALL BE CLEARED, GRUBBED, AND SCARIFIED PRIOR TO PLACING FILL.
 - ROADWAY AND BUILDING PAD FILLS SHALL BE PLACED IN LIFTS AND COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DENSITY.
 - CONTRACTOR SHALL PROVIDE DUST CONTROL OR ABATEMENT MEASURES SUCH AS WATER SUPPRESSION, SCREENING & ENCLOSURE AND GENERAL SITE HOUSE KEEPING DURING CONSTRUCTION OF PROJECT.

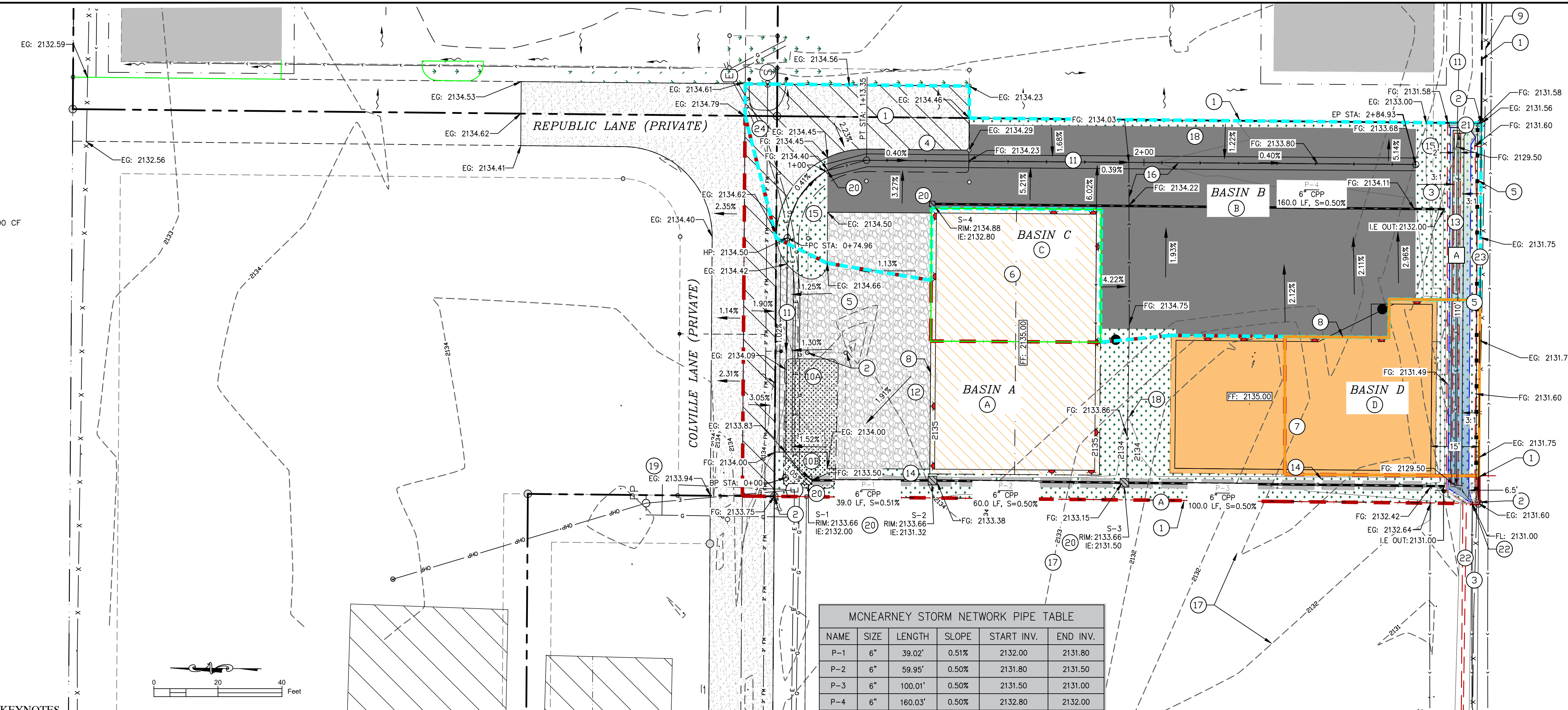
ESTIMATED GRADING QUANTITIES

TOTAL ESTIMATED DISTURBED VOLUME ON-SITE

* GRADING QUANTITIES ARE ESTIMATED BY AUTOCAD 2025 SOFTWARE

- STRIPPIINGS ASSUMED 8"-0.66"
- ESTIMATED MATERIAL IMPORT 1.5' ~18" (0.5' TOP COARSE + 1' BASE COARSE)

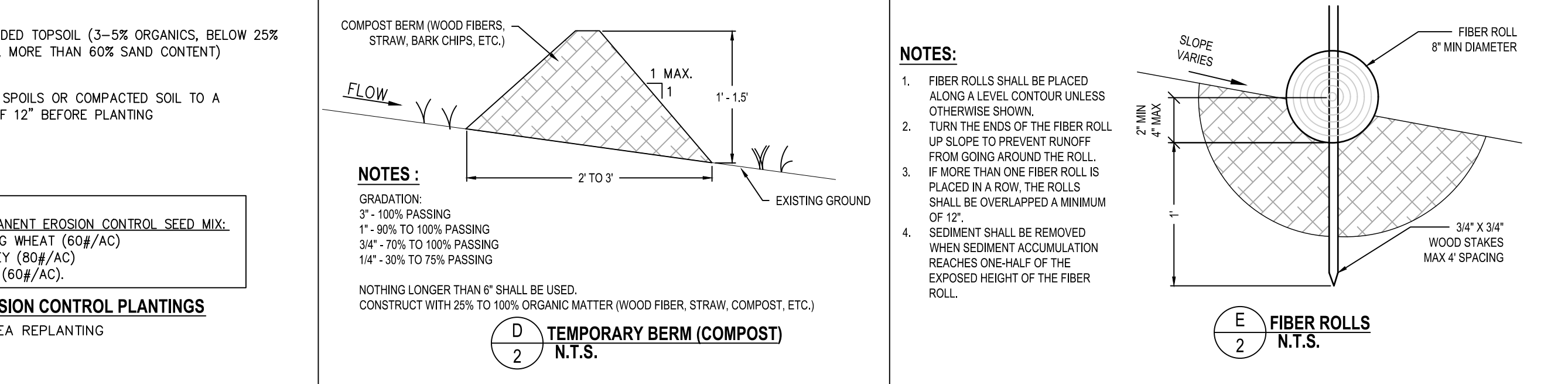
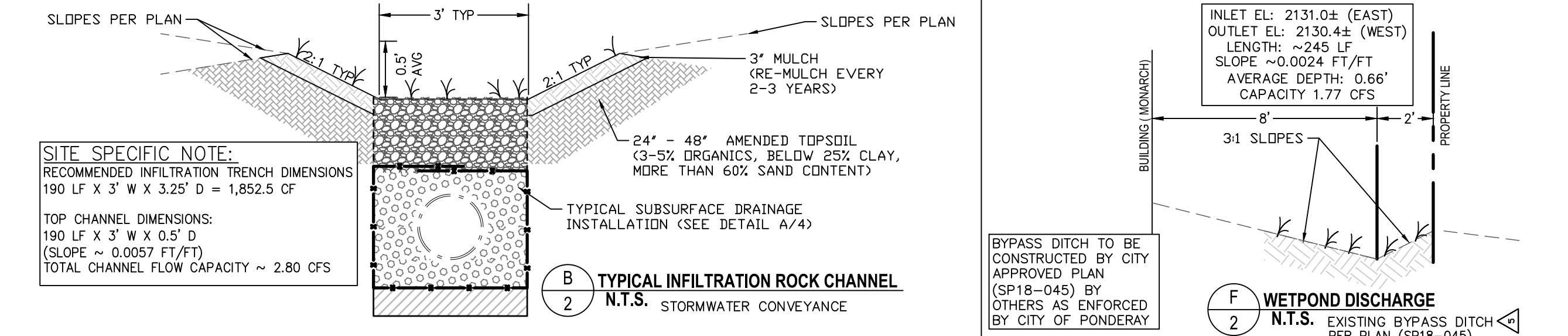
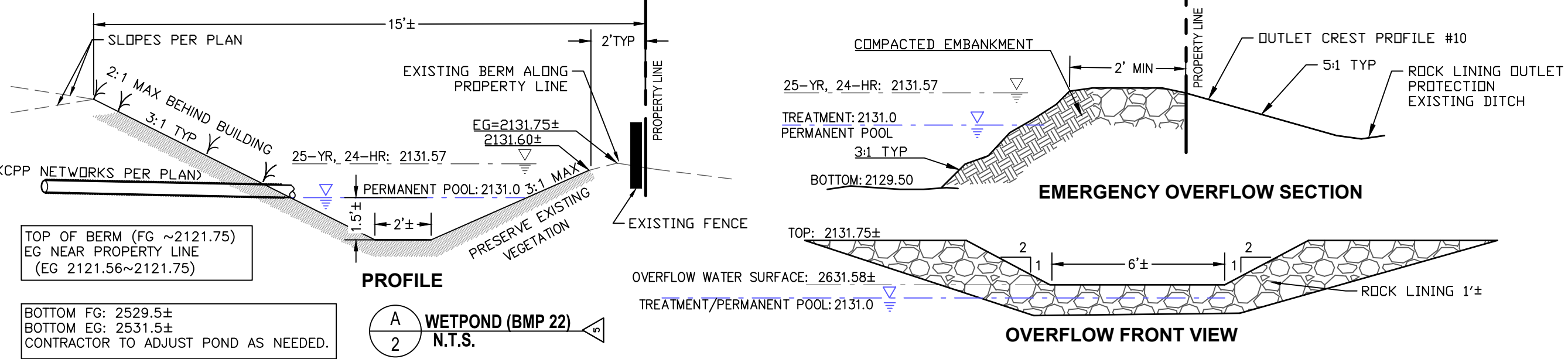
GRADING AREA (SF)	VOLUME CUT (CY)	VOLUME FILL (CY)	GROSS VOLUME (CY)	ESTIMATED STRIPPIINGS (CY)	ESTIMATED MATERIAL IMPORT (CY)
26,125	90	425	335 (FILL)	70	405



MCNEARNEY STORM NETWORK PIPE TABLE

NAME	SIZE	LENGTH	SLOPE	START INV.	END INV.
P-1	6"	39.02'	0.51%	2132.00	2131.80
P-2	6"	59.95'	0.50%	2131.80	2131.50
P-3	6"	100.01'	0.50%	2131.50	2131.00
P-4	6"	160.03'	0.50%	2132.80	2132.00

- KEYNOTES**
- PROPERTY BOUNDARY
 - RETAIN & PROTECT EXISTING SURVEY MONUMENTS
 - EXISTING STORMWATER EASEMENT
 - EXISTING 20' WIDE INGRESS, EGRESS & UTILITY EASEMENT
 - EXISTING DRIVEWAY AND ACCESS
 - BUILDING 1 (FF 2135±)
 - BUILDING 2 (FF 2135±)
 - ROOF OUTLINE
 - EXISTING FENCE AND DITCH
 - EXISTING STORMWATER FACILITY (COLVILLE LANE TREATMENT AREA) TO BE REMOVED & LOCATED IN EXISTING UTILITIES INSTR. NO. 955611. LENGTH: ~40 FT AREA: 657 SF BOTTOM WIDTH: 16 FT DEPTH: 6" AVG OUTFLOW SW: 2133.8±
 - EXISTING STORMWATER TREATMENT & RETENTION AREA OF COLVILLE LANE TO BE COLLECTED AND TREATED BY INFILTRATION ROCK CHANNEL (KEYNOTE 14)
 - ROCK VALLEY CUTTER- ALLEY SECTION - SEE ROADSIDE DITCH PROFILE & SECTION (SHEET 4) EXISTING APPROACH VALLEY TO REMAIN.
 - STORMWATER FLOW
 - STORMWATER TREATMENT & RETENTION AREA (WETPOND-SEE DETAIL A/2)
 - LENGTH: 110'± (BOTTOM) 118'± (TOP) WIDTH: 2'± (BOTTOM) 9'± (TOP) SUMP AREA: 215 SF (FG: 2,129.50±) PERMANENT POOL: 745 SF, 720 CF (FG: 2131.00) 25 YR-24 HOUR STORM: 1,232 CF (FG: 2131.57) TOTAL POND VOLUME: 1,057 SF, 1,261 CF (FG 2131.60±)
 - STORMWATER INFILTRATION ROCK CHANNEL 190' L X 3' W X 3.25' AVG D (SEE DETAIL B/2, & SHEET 4)
 - REPLANT DISTURBED AREAS WITH APPROVED GRASS MIXTURE (SEE DETAIL C/2)
 - DRAINAGE FLOW LINE
 - EXISTING GROUND CONTOURS (TYP) (5' MAJORS, 1' MINORS)
 - FINISHED GROUND CONTOURS (TYP) (5' MAJORS, 1' MINORS)
 - SURFACE SPOT ELEVATIONS (TYPICAL) FG = FINISHED GROUND HP= HIGH POINT EG = EXISTING GROUND FF = FINISHED FLOOR
 - STORMWATER COLLECTION NETWORK ALL CATCH BASINS ARE TO BE 18" PVC (NDS OR EQUAL) SEE STRUCTURE AND PIPE TABLE FOR MORE INFORMATION. SEE SHEET 4, DETAIL A FOR INSTALLATION SEE SHEET 4, DETAIL C FOR CATCH BASIN
 - STORMWATER EMERGENCY OVERFLOW PROVIDE NEW CONNECTION TO EXISTING DITCH - OVERFLOW BERM EMERGENCY POND I.E. OUT: 2131.58± (SEE DETAIL A/2)
 - WET POND DISCHARGE - CONNECT TO HISTORIC DRAINAGE DITCH BYPASS DITCH TO BE CONSTRUCTED PER CITY APPROVED PLAN (SP18-045) BY OTHERS AS ENFORCED BY CITY OF PONDERAY.
 - POND I.E. OUT: 2131.00± (SEE DETAIL F/2)



STORMWATER AND GRADING PLAN

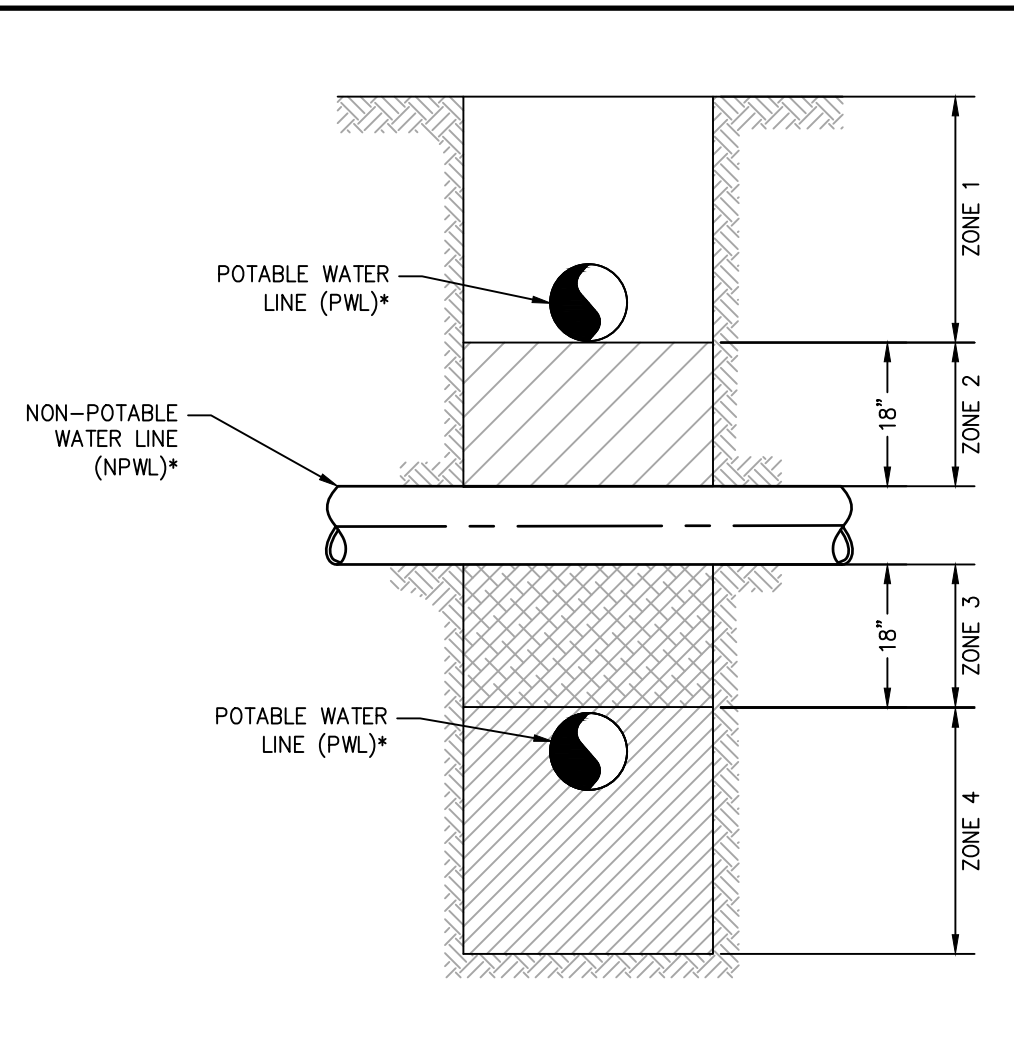
PHIL MCNEARNEY
 MCNEARNEY SHOP 2
 PONDERAY, IDAHO

811
 Know what's below. Call before you dig.

ENGINEERING
 414 CUTLER STREET SUITE 203
 SANDPOINT IDAHO 83864
 (208) 263-0623
 info@81engineering.com

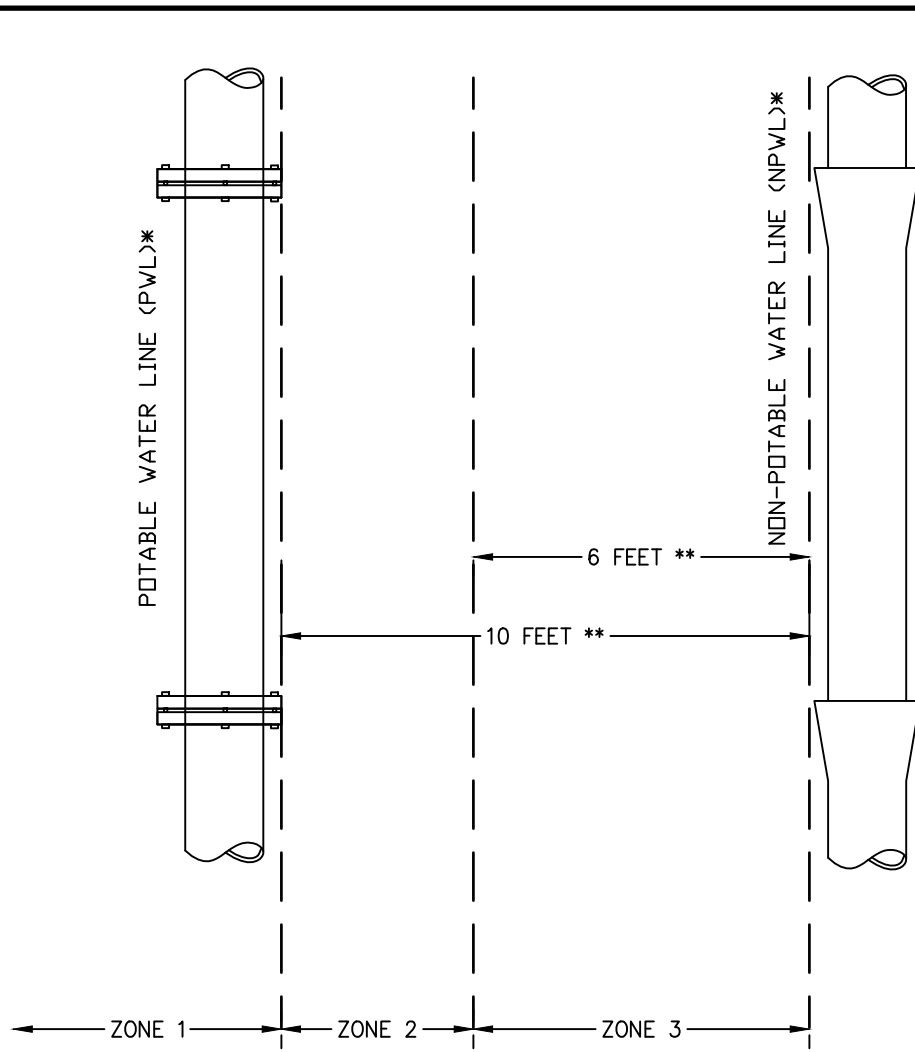
PROFESSIONAL ENGINEER
 REGISTERED
 STATE OF IDAHO
 10086
 DANIEL W. LARSON

PROJECT NO: 2194
 DRAWN BY: JCE/ZWL
 CHECKED BY: DMW
 SCALE: 1"=20'
 (WALD FOR 24"X36" OR 22"X34")
 SHEET 2E OF 4



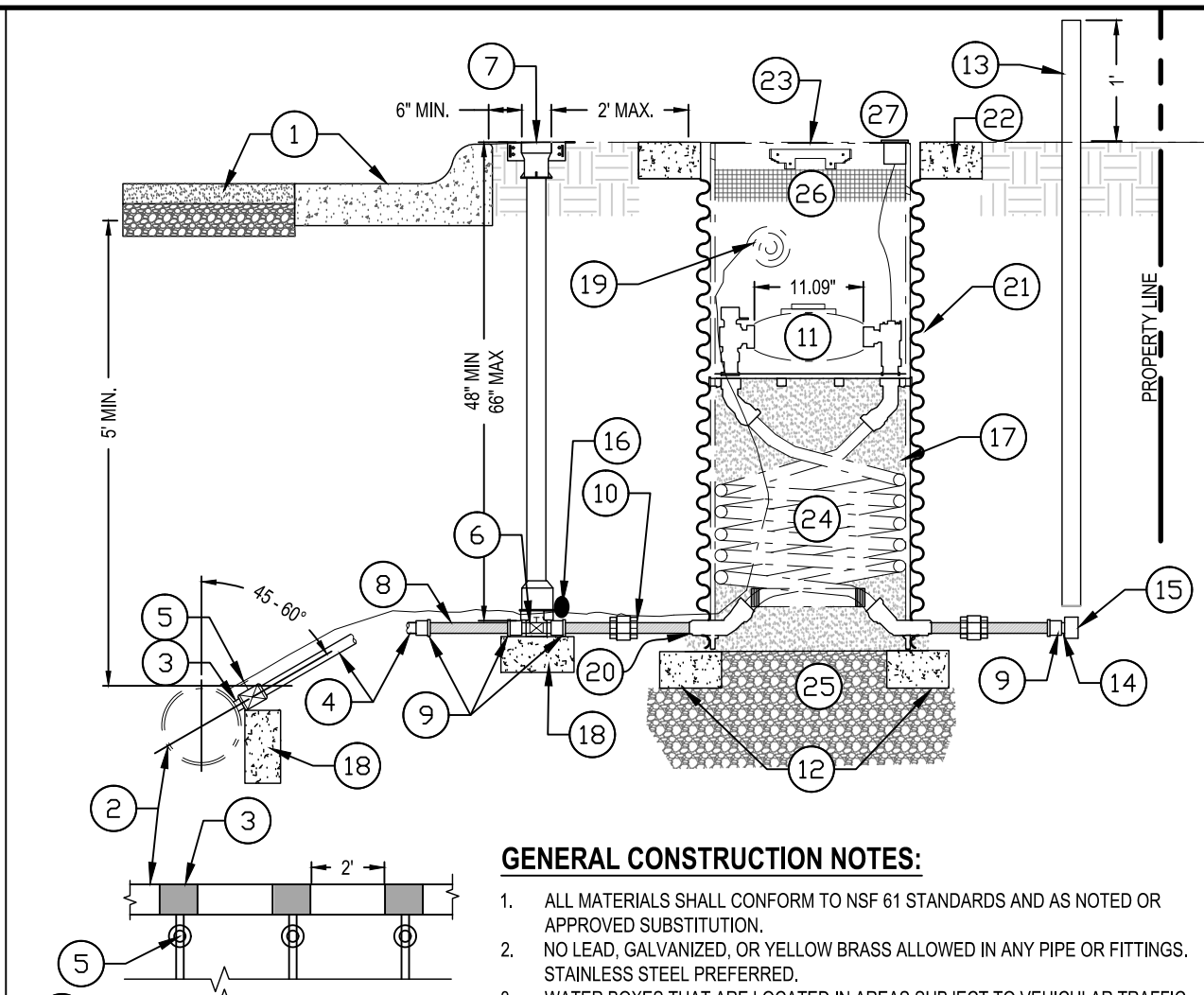
VERTICAL SEPARATION REQUIREMENTS

- ZONE 1: A) WATER AND NPWL MUST BE SEPARATED BY AT LEAST 18"
- AND B) ONE FULL, UNCUT LENGTH OF BOTH PWL OR JOINT PLACEMENT APPLIES ONLY TO FACILITY BEING CONSTRUCTED: POTABLE WATER, NON-POTABLE WATER, OR BOTH. NPWL PIPE MUST BE CENTERED ON THE CROSSING SO THAT THE JOINTS ARE AS FAR AS POSSIBLE FROM THE CROSSING.
- ZONE 2: A) ONE FULL, UNCUT LENGTH OF BOTH PWL OR JOINT PLACEMENT APPLIES ONLY TO FACILITY BEING CONSTRUCTED: POTABLE WATER, NON-POTABLE WATER, OR BOTH. NPWL PIPE MUST BE CENTERED ON THE CROSSING WITH A SINGLE 20' SEGMENT SO THAT THE JOINTS ARE AS FAR AS POSSIBLE FROM THE CROSSING.
- AND EITHER B) NPWL MUST BE CONSTRUCTED TO WATER MAIN STANDARDS WITH A SINGLE 20' SEGMENT FOR A HORIZONTAL DISTANCE OF 10 FEET ON BOTH SIDES OF CROSSING.
- OR C) EITHER THE NPWL OR PWL MUST BE ENCASED WITH A POTABLE WATER CLASS SLEEVE FOR A HORIZONTAL DISTANCE OF 10 FEET ON BOTH SIDES OF THE CROSSING.
- ZONE 3: SAME REQUIREMENTS AS ZONE 2 EXCEPT THE NPWL MUST ALSO BE SUPPORTED ABOVE THE CROSSING TO PREVENT SETTLING.
- ZONE 4: SAME REQUIREMENTS AS ZONE 1 (ITEM A) ONLY EXCEPT THE NPWL MUST ALSO BE SUPPORTED ABOVE THE CROSSING TO PREVENT SETTLING.



HORIZONTAL SEPARATION REQUIREMENTS

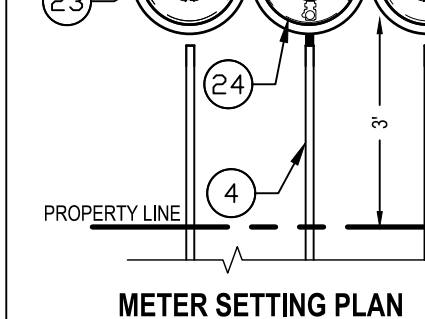
- ZONE 1: A) IF CONSTRUCTING BOTH PWL AND NPWL, PIPELINES MUST BE IN SEPARATE TRENCHES.
- ZONE 2: A) PWL AND NPWL SEPARATED BY AT LEAST 6 FEET AT OUTSIDE WALLS.
AND B) BOTTOM OF PWL MUST BE ABOVE TOP OF NPWL AND EITHER C) NPWL CONSTRUCTED TO WATER MAIN STANDARDS OR D) SITE SPECIFIC REQUIREMENTS APPROVED BY DEQ.
- ZONE 3: NOT ALLOWED WITHOUT DEQ WAIVER.
- NOTE: SANITARY SEWER FORCE MAINS MUST HAVE MIN. 10' HORIZONTAL SEPARATION AND 18" VERTICAL SEPARATION. ZONE 2 AND ZONE 3 PLACEMENTS ARE NOT ALLOWED WITHOUT A WAIVER GRANTED BY DEQ.
- * THE TERM "LINE" APPLIES TO BOTH MAIN LINES AND SERVICE LINES. FOR SPECIAL CIRCUMSTANCES REGARDING EXISTING POTABLE OR NON-POTABLE SERVICE LINES, REFER TO IDAPA 58.01.08.542.07.C AND 58.01.16.430.02.0.III, RESPECTIVELY.
- ** DISTANCES ARE HORIZONTAL.
- *** JOINT PLACEMENT APPLIES ONLY TO FACILITY BEING CONSTRUCTED: POTABLE WATER, NON-POTABLE WATER, OR BOTH.



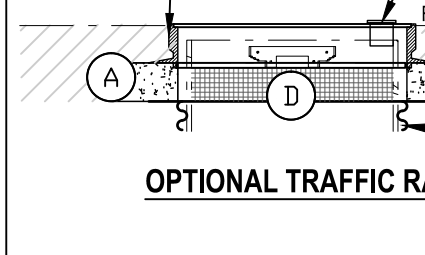
GENERAL CONSTRUCTION NOTES:

- ALL MATERIALS SHALL CONFORM TO NSF 61 STANDARDS AND AS NOTED OR APPROVED SUBSTITUTION.
- NO LEAD, GALVANIZED, OR YELLOW BRASS ALLOWED IN ANY PIPE OR FITTINGS. STAINLESS STEEL, PREFERRED.
- WATER BOXES THAT ARE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC, TRAFFIC RATED MATERIALS TO BE USED.
- ALL METER BOXES AND LIDS SHALL BE APPROVED BY THE CITY OF SANDPOINT. ALL SERVICE LINES, VALVES AND FITTINGS SHALL COMPLY WITH AWWA C800.
- METER BOX MAY BE AY MCDONALD COIL BOX W/ AY MCDONALD COIL PIT ASSEMBLY. CITY FORCES TO INSTALL METER.
- ALL BRASS COMPONENTS SHALL BE 'NO LEAD' BRASS MEETING UNS C89833 AS PER ASTM B884.
- ONE 3" OR 6" GRADE ADJUSTER MAY BE UTILIZED WHEN NEEDED TO MEET FINAL GRADE AND GRADE ADJUSTERS MAY BE USED ON NEW CONSTRUCTION PROJECTS. GRADE ADJUSTER AND BOX SHALL BE BY THE SAME MANUFACTURER.
- SOILS BELOW METER SET TO BE UNDISTURBED NATIVE SOILS. GRANULAR BASE OR COMPACTED TO 90% OF THE STANDARD PROCTOR MAXIMUM DENSITY AS DETERMINED BY ASTM D1557 METHOD 'O' APPROVED EQUAL.
- ALL SERVICES SHALL EXTEND BEYOND UTILITY EASEMENTS AND UTILITIES INSTALLED WITH THIS PROJECT.
- NO SERVICE CONNECTIONS WITHIN ONE FOOT OF THE PIPE ENDS. STAGGER MULTIPLE CONNECTIONS MADE ON THE SAME JOINT OF PIPE ALONG THE CIRCUMFERENCE AND SEPARATED BY A MINIMUM OF ONE FOOT.
- 24" I.D. X 6" W X 3" H CONCRETE GRADE RING
- SPECIAL "WATER" COVER
- 20" I.D. X 44" MIN. LENGTH CMP OR CORRUGATED DOUBLE-WALL POLY
- AY MCDONALD COIL PIT ASSEMBLY
- TOUCH READ HOLE FOR REMOTE READ.

METER SETTING PLAN



OPTIONAL TRAFFIC RATED LID

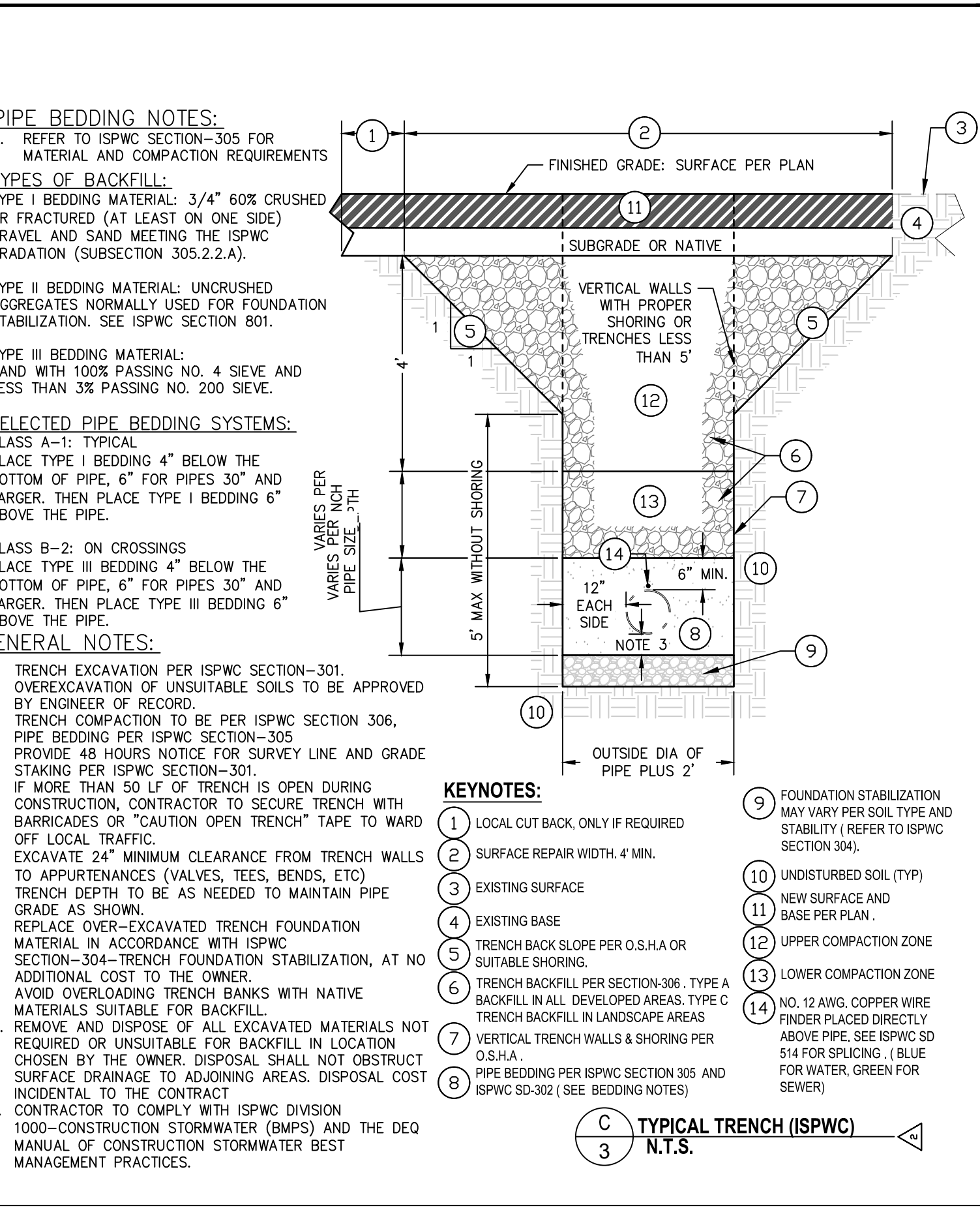


- KEYNOTES:**
- ROADWAY AS DETAILED IN THESE PLANS. CURB & GUTTER, SIDEWALK, OR ROADSIDE DITCH AS REQUIRED.
 - WATER MAIN SIZE, MATERIAL, AND CONSTRUCTION DETAILS AS REQUIRED WITH THESE PLANS. DOUBLE BAND STAINLESS STEEL TAPPING SADDLE W/ 1" MPT X 1" IPS COMPRESSION CORP. STOP & POLY ADAPTER, (RIMAC OR APPROVED EQUAL).
 - POLYETHYLENE (250 PSI) SERVICE LINE. 1" IRON PIPE SIZE (SIC) WITH PACK JOINT BRASS FITTINGS AND STAINLESS STEEL INSERTS. NO SPLICING IS ALLOWED.
 - 1" BALL CORP TYPE FB400 INLET AWWA TAPER-CC X PACK JOINT W/ S.S. INSERT (FORD OR EQUAL)
 - 1" BALL CURB STOP (1" AY MCDONALD NL 76101 FIP X FIP 512-174 OR APPROVED EQUAL)
 - 95-E C.I. CURB BOX COMPLETE 41"-64" TYLER 11955 OLYMPC 13-5770WSET
 - 12" STAINLESS STEEL OR BRASS PIPE EACH SIDE OF METER SET AND CURB BOX
 - BRASS OR STAINLESS STEEL COMPRESSION POLY ADAPTER (1") (1" FEMALE PACKS)
 - RED BRASS-STAINLESS STEEL UNION, 1X 3/4" PACK JOINT, OR 1" PACK W/ 1X 3/4" BUSHING.
 - 3/4" TO 1" BADGER WATER METER (M70 BRONZE OR APPROVED EQUAL) TO BE SET BY CITY FORCES.
 - 18" I.D. CONCRETE GRADE RING OR STABILIZATION BLOCKS (UNDER YOKE).
 - 2" X 4" MARKER BOARD PAINTED BLUE
 - 1" POLY SERVICE LINE PER PLUMBING CODE STUBBED PAST DRY UTILITIES.
 - 1" POLY CAP (TO BE REMOVED WHEN SERVICE IS EXTENDED TO FINAL USE).
 - 3M MID-RANGE MARKER #1257 TO BE PLACED AT CURB STOP.
 - BED METER SETTER IN SAND OR COMPACTED GRANULAR FILL TO WITHIN 6" OF METER BRICK OR PRECAST CONCRETE BLOCK. (STABILIZATION AS DETERMINED IN THE FIELD BY CITY FORCES.)
 - 12 GA. BLUE TONING WIRE. TAP OR ZIP TIE TO SERVICE LINE. SPLICE WITH WATER-TIGHT HEAT SHRINK CONNECTORS OR EQUAL.
 - NOTCH CMP OR CORRUGATED POLY FOR OFFSET ON DOUBLE RING.
 - 20" I.D. X 44" MIN. LENGTH CMP OR CORRUGATED DOUBLE-WALL POLY
 - 24" O.D. X 6" W X 3" H CONCRETE GRADE RING. IN AREAS OF TRAFFIC OR NEAR A HEAVY TRAFFIC AREA, REFER TO OPTIONAL TRAFFIC RATED LID
 - AY MCDONALD 18" LOCKING LID W/ TOUCH READ HOLE FOR COIL PIT BOX.
 - 790-448-JPPP 1" X 1" AY MCDONALD COIL PIT ASSEMBLY OR APPROVED EQUAL. METER SETTER HAS THE FOLLOWING FACTORY ASSEMBLED ITEMS:
 - ANGLE BALL VALVE WITH PADLOCK WING.
 - ANGLE QUAL ANGLE CHECK VALVE.
 - 1" MIP INLET AND OUTLET CONNECTIONS.
 - IMPACT RESISTANT RIGID METER PLATFORM
 - COMPACTED BASE FOR METER SETTER.
 - 18" X 12" FOAM INSULATING CUSHION FOR COIL PIT (90CI 4189-033 OR EQUAL)
 - REMOTE LEAD PER CITY OF SANDPOINT



1" SANDPOINT WATER SERVICE CONNECTION

N.T.S.



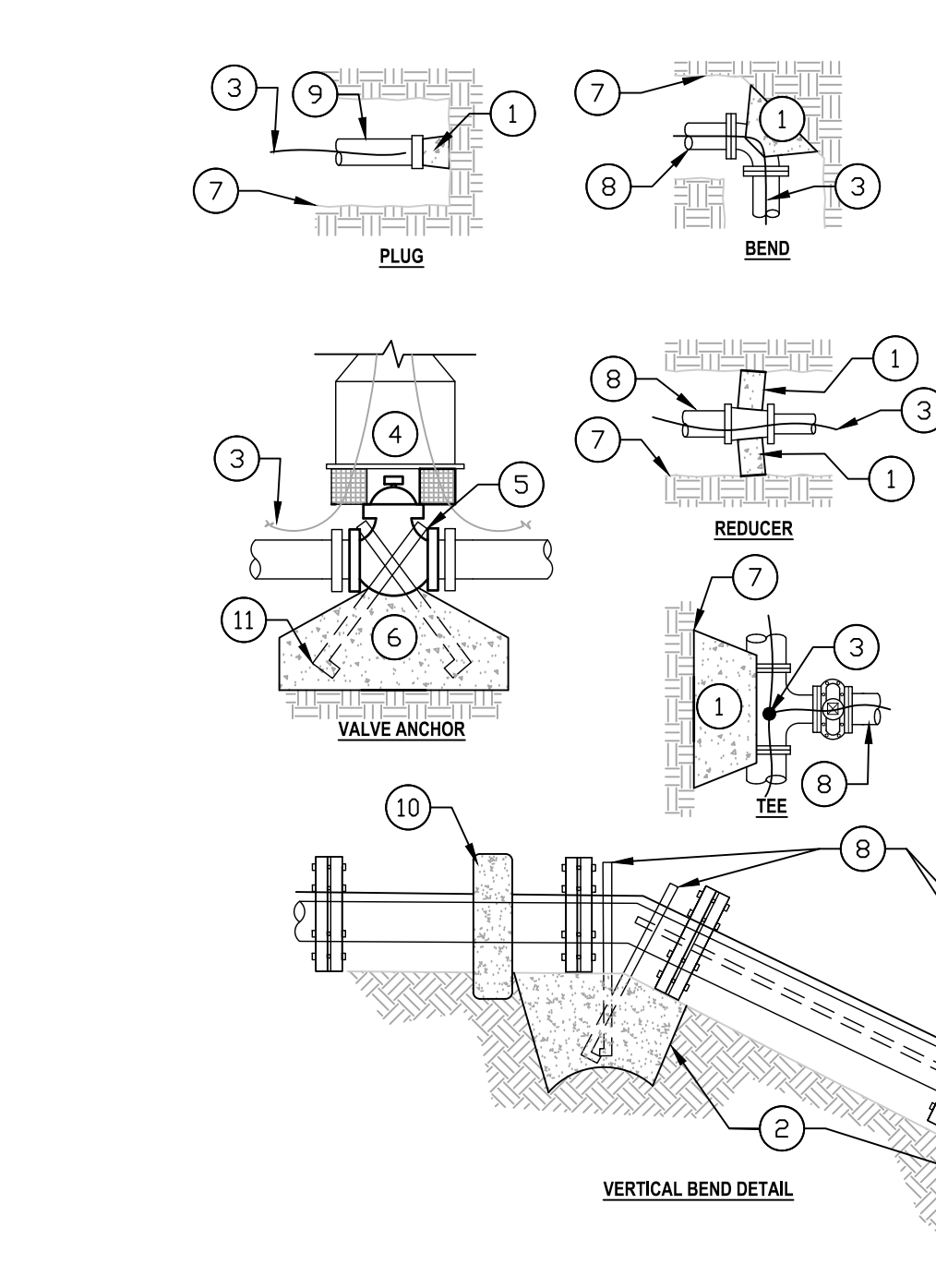
PIPE BEDDING NOTES:

- REFER TO ISPCW SECTION-305 FOR MATERIAL AND COMPACTON REQUIREMENTS
 - TYPE I BEDDING MATERIAL: 3/4" 60% CRUSHED OR FRACTURED (AT LEAST ON ONE SIDE) GRAVEL AND SAND MEETING THE ISPCW GRADATION (SUBSECTION 305.2.2.A).
 - TYPE II BEDDING MATERIAL: UNCRUSHED AGGREGATES NORMALLY USED FOR FOUNDATION STABILIZATION. SEE ISPCW SECTION 801.
 - TYPE III BEDDING MATERIAL: SAND WITH 100% PASSING NO. 4 SIEVE AND LESS THAN 3% PASSING NO. 200 SIEVE.
- SELECTED PIPE BEDDING SYSTEMS:**
- CLASS A-1: TYPICAL
- PLACE TYPE I BEDDING 4" BELOW THE BOTTOM OF PIPE, 6" FOR PIPES 30" AND LARGER. THEN PLACE TYPE I BEDDING 6" ABOVE THE PIPE.
- CLASS B-2: ON CROSSINGS
- PLACE TYPE III BEDDING 4" BELOW THE BOTTOM OF PIPE, 6" FOR PIPES 30" AND LARGER. THEN PLACE TYPE III BEDDING 6" ABOVE THE PIPE.
- GENERAL NOTES:**
- TRENCH EXCAVATION PER ISPCW SECTION-301.
 - OVEREXCAVATION OF UNSUITABLE SOILS TO BE APPROVED BY ENGINEER OF RECORD.
 - TRENCH COMPACTON TO BE PER ISPCW SECTION 306, PIPE BEDDING PER ISPCW SECTION-305
 - PROVIDE 48 HOURS NOTICE FOR SURVEY LINE AND GRADE STAKING PER ISPCW SECTION-301.
 - IF MORE THAN 50 LF OF TRENCH IS OPEN DURING CONSTRUCTION, CONTRACTOR TO SECURE TRENCH WITH BARRICADES OR "CAUTION OPEN TRENCH" TAPE TO WARD OFF LOCAL TRAFFIC.
 - EXCAVATE 24" MINIMUM CLEARANCE FROM TRENCH WALLS TO APPURTENANCES (VALVES, TEES, BENDS, ETC)
 - TRENCH DEPTH TO BE AS NEEDED TO MAINTAIN PIPE GRADE AS SHOWN.
 - REPLACE OVER-EXCAVATED TRENCH FOUNDATION MATERIAL IN ACCORDANCE WITH ISPCW SECTION-304-TRENCH FOUNDATION STABILIZATION, AT NO ADDITIONAL COST TO THE OWNER.
 - AVOID OVERLOADING TRENCH BANKS WITH NATIVE MATERIALS SUITABLE FOR BACKFILL.
 - REMOVE AND DISPOSE OF ALL EXCAVATED MATERIALS NOT REQUIRED OR UNSUITABLE FOR BACKFILL IN LOCATION CHOSEN BY THE OWNER. DISPOSAL SHALL NOT OBSTRUCT SURFACE DRAINAGE TO ADJOINING AREAS. DISPOSAL COST INCIDENTAL TO THE CONTRACT.
 - CONTRACTOR TO COMPLY WITH ISPCW DIVISION 1000-CONSTRUCTION STORMWATER (BMPs) AND THE DEQ MANUAL OF CONSTRUCTION STORMWATER BEST MANAGEMENT PRACTICES.



TYPICAL TRENCH (ISPCW)

N.T.S.



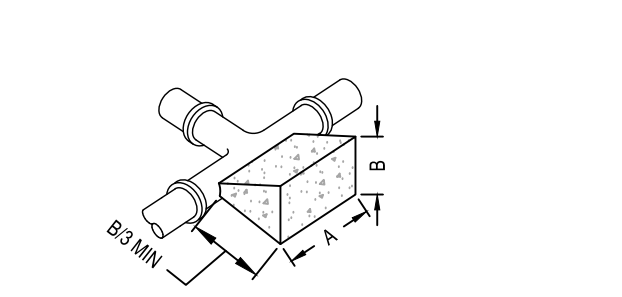
KEYNOTES:

- FOR HORIZONTAL PIPE BENDS, BEARING THRUST BLOCKS MUST PROVIDE 2500 PSI CONCRETE POURED AGAINST UNDISTURBED EARTH PER TABLE 1
- FOR VERTICAL PIPE BENDS, GRAVITY THRUST BLOCKS MUST PROVIDE A VOLUME OF CONCRETE POURED AGAINST EARTH WHICH IS SIZED FOR EXPECTED FORCES WITH A MINIMUM 1.5 FACTOR OF SAFETY
- NO. 12 COPPER TRACER WIRE. SEE SD-514 FOR SPLICING
- C.I. VALVE BOX WITH COVER
- C.I. GATE VALVE (M.J.)
- PRECAST BLOCK FOR CUT IN TEE AND VALVE OR CAST IN PLACE WITH 2 # MIN. REBAR
- TRENCH SIDE
- PIPE
- PLUG
- HAMMERHEAD THRUST BLOCKING
- ANCHOR BARS (#2 MIN.)



THRUST BLOCKING

N.T.S.

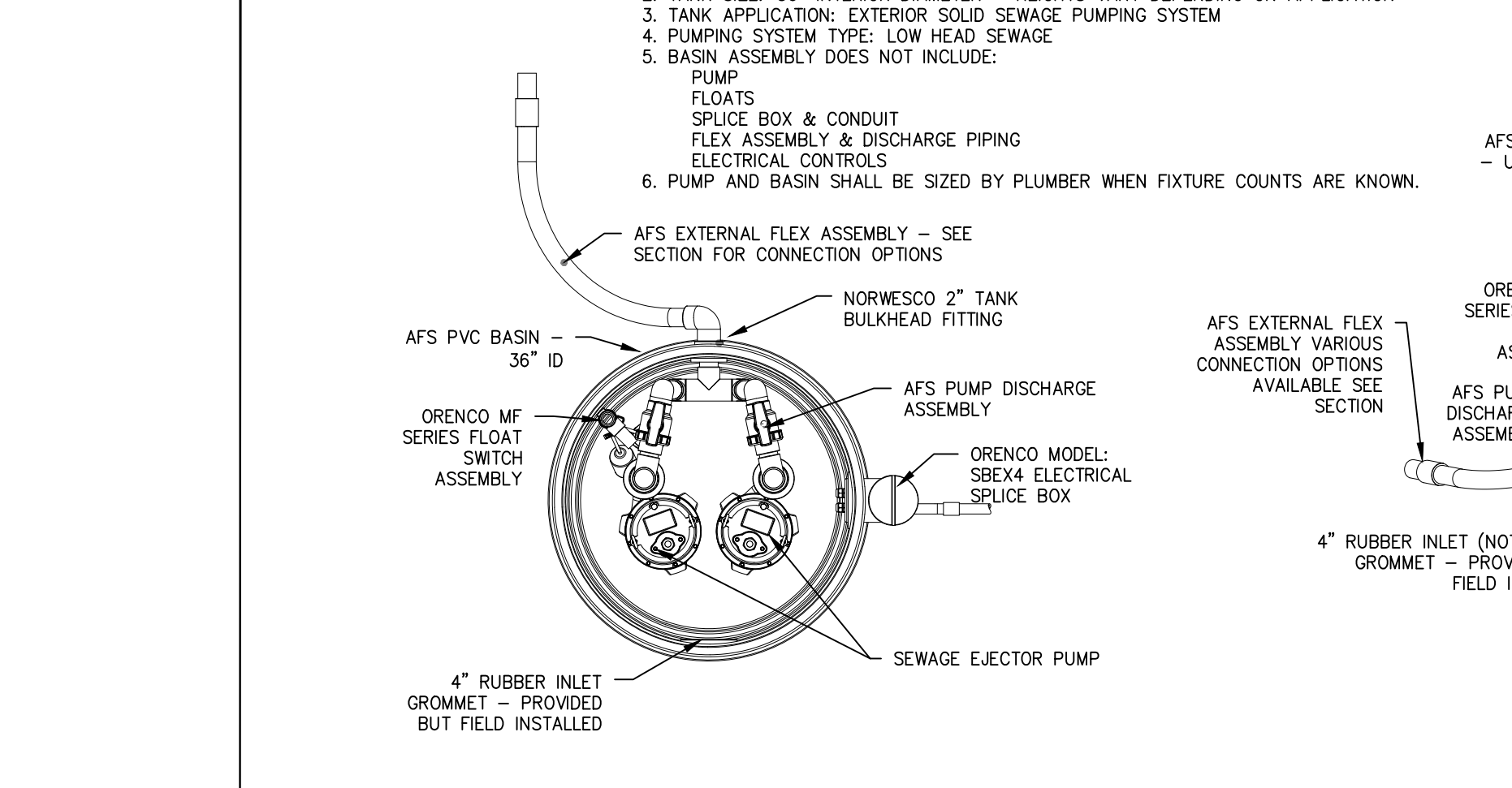


BLOCKING DIMENSIONS

FITTING SIZES	DIMENSIONS FOR THRUST BLOCKING*	
	TEE & PLUG A B	90° BEND A B
3"	2'-0" 1'-6"	2'-0" 1'-6"
4"	2'-0" 1'-6"	2'-0" 1'-6"
6"	2'-0" 2'-0"	2'-6" 2'-6"
8"	3'-0" 2'-6"	3'-6" 3'-0"
10"	3'-6" 3'-6"	4'-0" 4'-0"
12"	4'-0" 4'-0"	5'-0" 5'-0"
14"	5'-6" 4'-0"	6'-6" 5'-0"
FITTING SIZES	REDUCER & 22½° BEND A B	
	45° BEND & WYE A B	REDUCER & 22½° BEND A B
3"	2'-0" 1'-0"	2'-0" 0'-6"
4"	2'-0" 1'-0"	2'-0" 0'-6"
6"	2'-0" 2'-0"	2'-0" 1'-0"
8"	2'-6" 2'-6"	2'-0" 1'-6"
10"	3'-0" 3'-0"	2'-6" 2'-0"
12"	4'-0" 3'-6"	3'-0" 2'-6"
14"	5'-0" 3'-6"	3'-6" 2'-6"

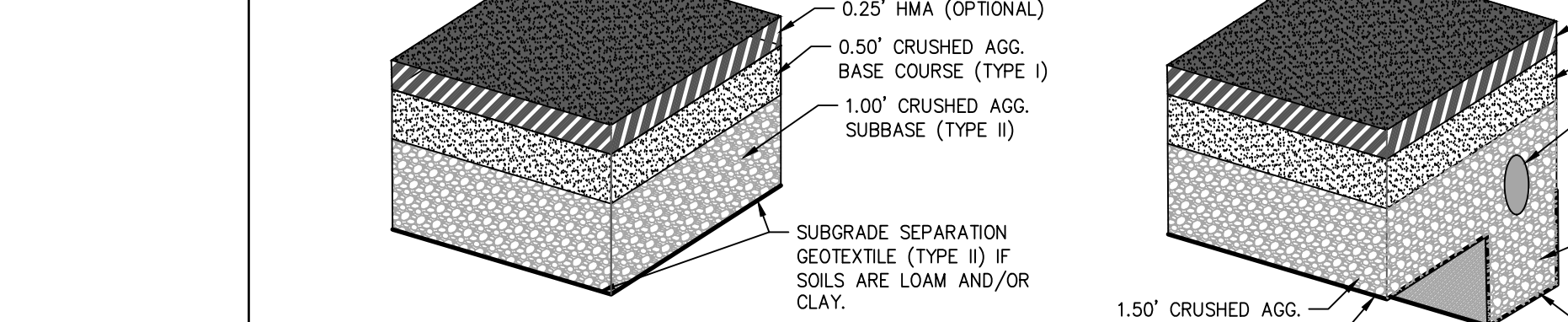
*BASED ON 150 PSI MAIN PRESSURE & 2000 PSF SOIL BEARING PRESSURE

- NOTES:**
- THRUST BLOCK SHALL BE CAST IN PLACE AGAINST UNDISTURBED OR COMPACTED SOIL.
 - ALL CONCRETE TO BE MINIMUM 2500 PSI.
 - ALL BOLTS SHALL BE LEFT FREE OF CONCRETE AND ACCESSIBLE BY WRENCH.
 - MINIMUM 4 MIL PLASTIC SHALL BE PLACED BETWEEN FITTING AND THRUST BLOCK.
 - JOINT RESTRAINT DEVICES MAY BE USED AS AN ALTERNATE TO THRUST BLOCK WITH ENGINEER'S APPROVAL WHERE SOIL SUPPORT IS UNAVAILABLE, SUCH AS ON FILL SLOPES.



TYPICAL DUPLEX PUMP BASIN (AFS OR APPROVED EQUAL)

N.T.S.



GRAVEL CROSS SECTION SPECIFICATIONS:

- EXCAVATE TO SUBGRADE: 8" MINIMUM
- INSTALL SUBGRADE SEPARATION GEOTEXTILE (ISPCW TYPE II) ON LOAM AND/OR CLAY SOILS.
- SUBBASE: 1.00' MINIMUM OF CRUSHED AGGREGATE (ISPCW TYPE II)
- BASE COURSE: 0.50' CRUSHED AGGREGATE (ISPCW TYPE I)



APPROACH CONSTRUCTION SPECIFICATIONS:

- EXCAVATE TO SUBGRADE: 1.5" MINIMUM
- INSTALL SUBGRADE SEPARATION GEOTEXTILE (ISPCW TYPE II)
- CULVERT TO BE ADS OR HDPE. USE CMP, DIP, OR CONCRETE FOR SHALLOW INSTALL (LESS THAN 12" COVER).
- SUBBASE: 1.50' MINIMUM OF CRUSHED AGGREGATE (ISPCW TYPE II)
- BASE COURSE: 0.50' CRUSHED AGGREGATE BASE (ISPCW TYPE I)
- PAVEMENT: 0.25' OF HMA (OPTIONAL)
- CULVERT ENDS TO BE CLEAR AND PIPE LAID TO GRADE.
- AGGREGATE SUBBASE (TYPE II) IN TRENCH BENEATH PIPE TO BE USED IN NON-POROUS SOIL CONDITIONS (LOAMS OR CLAYS).



PARKING LOT CROSS SECTIONS

N.T.S.

PHIL MCNEARNEY
MCNEARNEY SHOP 2
PONDERAY, IDAHO

811
Know what's below. Call before you dig.

ENGINEERING REGISTERED
STATE OF IDAHO
10086
DANIEL W. LARSON

PROJECT NO: 2194
DRAWN BY: JCE
CHECKED BY: DWL
SCALE: N.T.S.
(VALID FOR 24" X 36" OR 22" X 34")
SHEET 3C OF 4

TABLE 1: MINIMUM TRENCH WIDTHS:

PIPE DIAMETER (INCHES)	MINIMUM TRENCH WIDTH (INCHES)
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
60"	96"

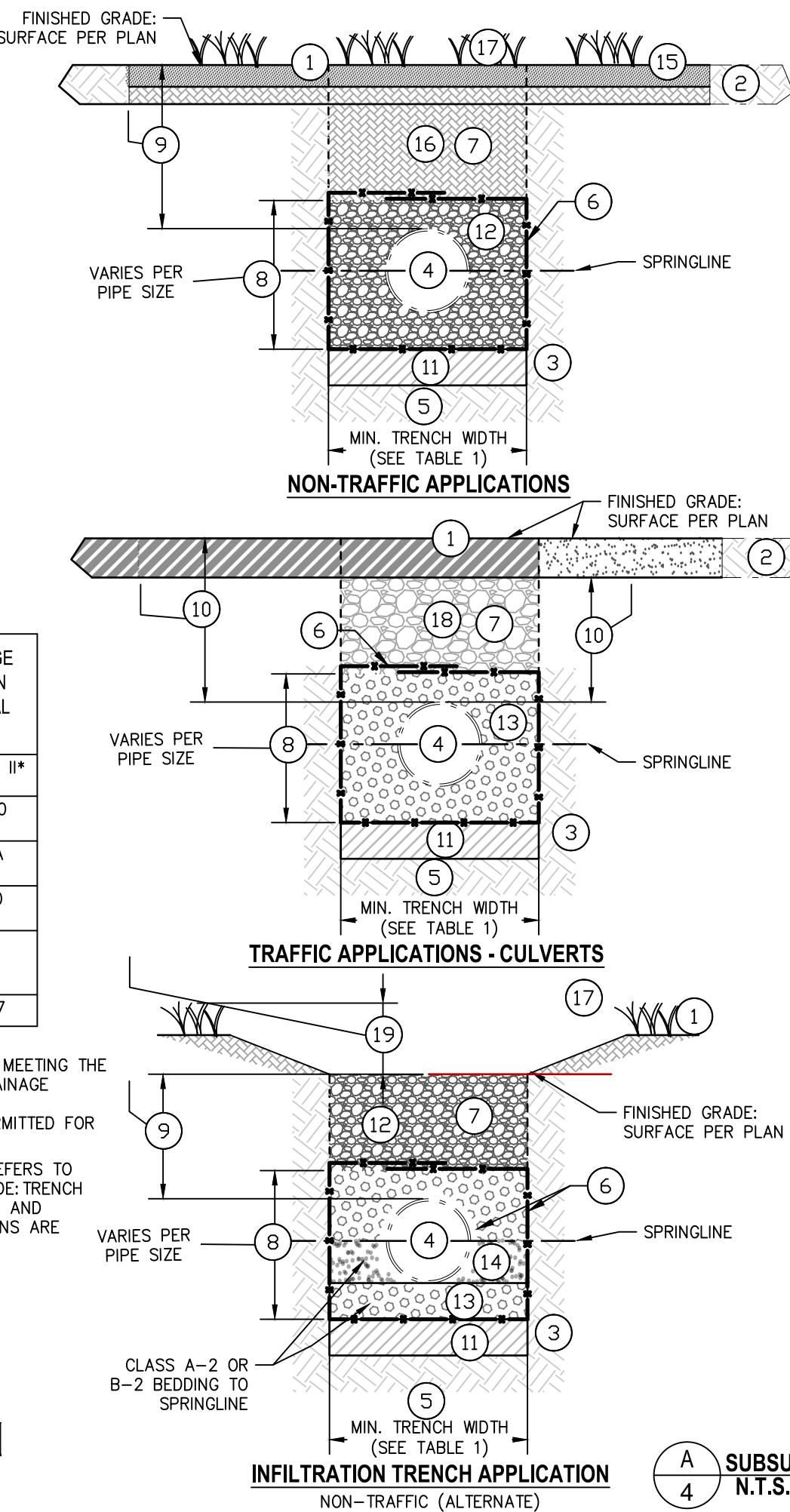
TABLE 2: CONSTRUCTION GEOTEXTILES NOTES:

GEOTEXTILE PROPERTY	TEST METHOD	MINIMUM AVERAGE ROLL VALUES (IN EITHER PRINCIPAL DIRECTION)	
		TYPE I*	TYPE II*
GRAB TENSILE STRENGTH—lb	ASTM D 4632	80	180
GRAB ELONGATION (%)	ASTM D 4632	NA	NA
PUNCTURE STRENGTH—lb	ASTM D 4833	35	80
APPARENT OPENING SIZE (AOS) (Std. Sieve)	ASTM D 4751	#70 OR FINER	
PERMITTIVITY (sec-1)	ASTM D 4491	0.7	0.7

1. DRAINAGE GEOTEXTILES
- 1.A. NONWOVEN OR MONOFILAMENT WOVEN GEOTEXTILES MEETING THE TABLE ABOVE ARE ACCEPTABLE BY ISPCW FOR DRAINAGE APPLICATIONS.
- 1.B. SLIT FILM OR SLIT TAPE GEOTEXTILES ARE NOT PERMITTED FOR DRAINAGE APPLICATIONS.
- (*) TYPE I REFERS TO PROTECTED CONDITIONS. TYPE II REFERS TO UNPROTECTED CONDITIONS. PROTECTED CONDITIONS INCLUDE: TRENCH DEPTH 10FT; ROUNDED AGGREGATE LESS THAN 4 IN. SIZE AND RELATIVELY SMOOTH TRENCH WALLS. ALL OTHER CONDITIONS ARE UNPROTECTED.

TABLE 3: MINIMUM RECOMMENDED COVER ON VEHICLE LOADING APPLICATIONS:

PIPE DIAMETER (INCHES)	SURFACE LIVE LOADING CONDITION
< 48"	H-25 HEAVY CONSTRUCTION (75T AXLE LOAD)
12"	48"
> 60"	24"



KEYNOTES:

- NEW SURFACE PER PLAN.
- EXISTING SURFACE.
- UNDISTURBED SOIL (TYP).
- PROPOSED PERF PIPE (HDPE OR CPP PER PLAN).
- MINIMUM TRENCH WIDTH DEPENDS ON PIPE DIAMETER (SEE TABLE 1).
- DRAINAGE GEOTEXTILE OR FILTER FABRIC (SEE TABLE 2).
- BACKFILL TRENCH PER ISPCW SECTION-306. (SEE BEDDING NOTES).
- PIPE BEDDING (SEE BEDDING NOTES). MINIMUM BEDDING SHALL BE 4" FOR 4"-24" PIPE, 6" FOR 30"- 60" PIPE (ISPCW SECTION 305).
- MINIMUM COVER IN NON TRAFFIC APPLICATIONS IS 12" FROM THE TOP/CROWN OF THE PIPE TO THE GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION.
- FOR TRAFFIC APPLICATIONS, MINIMUM COVER IS 12" FROM THE TOP/CROWN OF THE PIPE WITH DIAMETERS UP TO 48". 24" IS THE MINIMUM COVER FOR 60" DIAMETER PIPES, MEASURED FROM THE BOTTOM OF FLEXIBLE PAVEMENT (ROCK) OR TO THE TOP OF RIGID PAVEMENT (ASPHALT OR CONCRETE).
- FOUNDATION STABILIZATION MAY VARY PER SOIL TYPE AND STABILITY. (REFER TO ISPCW SECTION 304).
- CLASS II DRAIN ROCK. CLEAN ROUND RIVER ROCK OR PEA GRAVEL (FREE OF FINES, SAND, CHIPS).
- CLASS I DRAIN ROCK. WASHED CRUSHED ANGULAR ROCK OR CAP ROCK (FREE OF FINES, SAND, CHIPS).
- CLASS III SAND. CLEAN WELL GRADED SAND (FILTER SAND MEDIUM ASTM C-33).
- 3" MULCH (RE-MULCH EVERY 2-3 YEARS).
- AMENDED TOPSOIL (3-5% ORGANICS, BELOW 25% CLAY, MORE THAN 60% SAND CONTENT). INFILTRATION RATES SHALL EXCEED 1.0 IN/HR BUT NOT 3.0 IN/HR. TESTING MAY BE REQUIRED CONTACT ENGINEER.
- VEGETATION PER PLAN.
- SUGGESTED SEEDING MIXES:
GRASSED INFILTRATION AREA:
IDAHO FESCUE (60#/AC)
BEAKED SEED (60#/AC)
COLUMBIA BROME (80#/AC).
- ROAD BASE PER PLAN.
- TOP CHANNEL DEPTH PER PLAN.

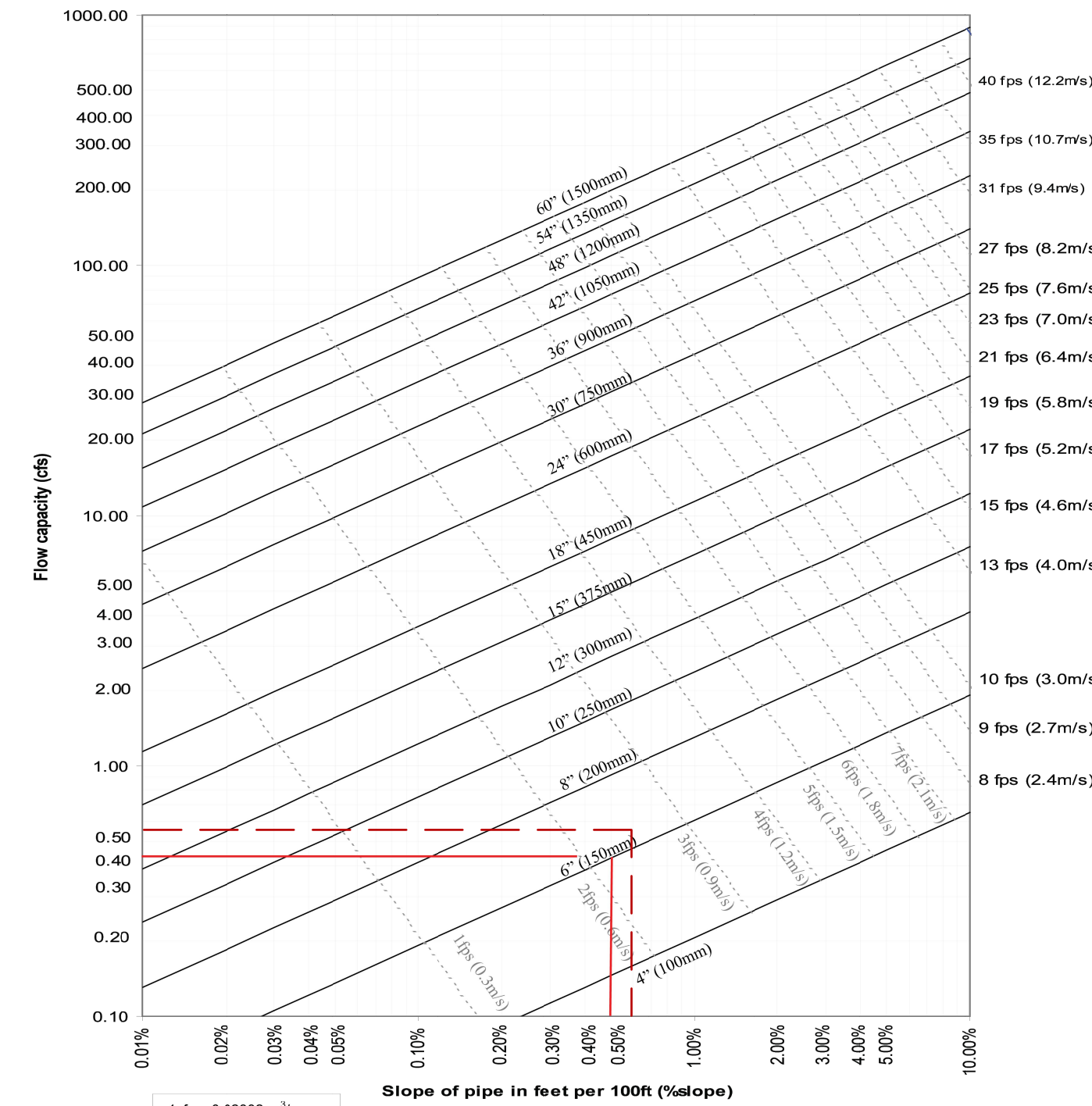
GENERAL NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, ISPCW, AND THE IDAHO BMP MANUAL, LATEST EDITIONS.
- TYPE OF BACKFILL:
TYPE I BEDDING MATERIAL: 3/4" 60% CRUSHED OR FRACTURED (AT LEAST ON ONE SIDE) GRAVEL AND SAND MEETING THE ISPCW GRADATION (SUBSECTION 305.2.2.A).
- TYPE II BEDDING MATERIAL: UNCRUSHED AGGREGATES NORMALLY USED FOR FOUNDATION STABILIZATION. SEE ISPCW SECTION 801.
- TYPE III BEDDING MATERIAL: SAND WITH 100% PASSING NO. 4 SIEVE AND LESS THAN 3% PASSING NO. 200 SIEVE.
- SELECTED PIPE BEDDING SYSTEMS:
CLASS A-1: UNDER TRAFFIC AREAS-CULVERTS
PLACE TYPE I BEDDING 4" BELOW THE BOTTOM OF PIPE, 6" FOR PIPES 30" AND LARGER. THEN PLACE TYPE I BEDDING TO 6" ABOVE THE PIPE.
- CLASS A-2: ALTERNATE APPLICATION (NON-TRAFFIC)
PLACE TYPE I BEDDING 4" BELOW THE BOTTOM OF PIPE, 6" FOR PIPES 30" AND LARGER. THEN PLACE TYPE II BEDDING TO 6" ABOVE THE PIPE.
- CLASS B-1: NON-TRAFFIC APPLICATION
PLACE TYPE II BEDDING 4" BELOW THE BOTTOM OF PIPE, 6" FOR PIPES 30" AND LARGER. THEN PLACE TYPE II BEDDING TO 6" ABOVE THE PIPE.
- CLASS B-2: WATER CROSSINGS
PLACE TYPE III BEDDING 4" BELOW THE BOTTOM OF PIPE, 6" FOR PIPES 30" AND LARGER. THEN PLACE TYPE III BEDDING TO 6" ABOVE THE PIPE.

ADS, Inc. Drainage Handbook

Hydraulics ♦ 3-5

Figure 3-1 Discharge Rates for ADS Corrugated Pipe with Smooth Interior Liner¹



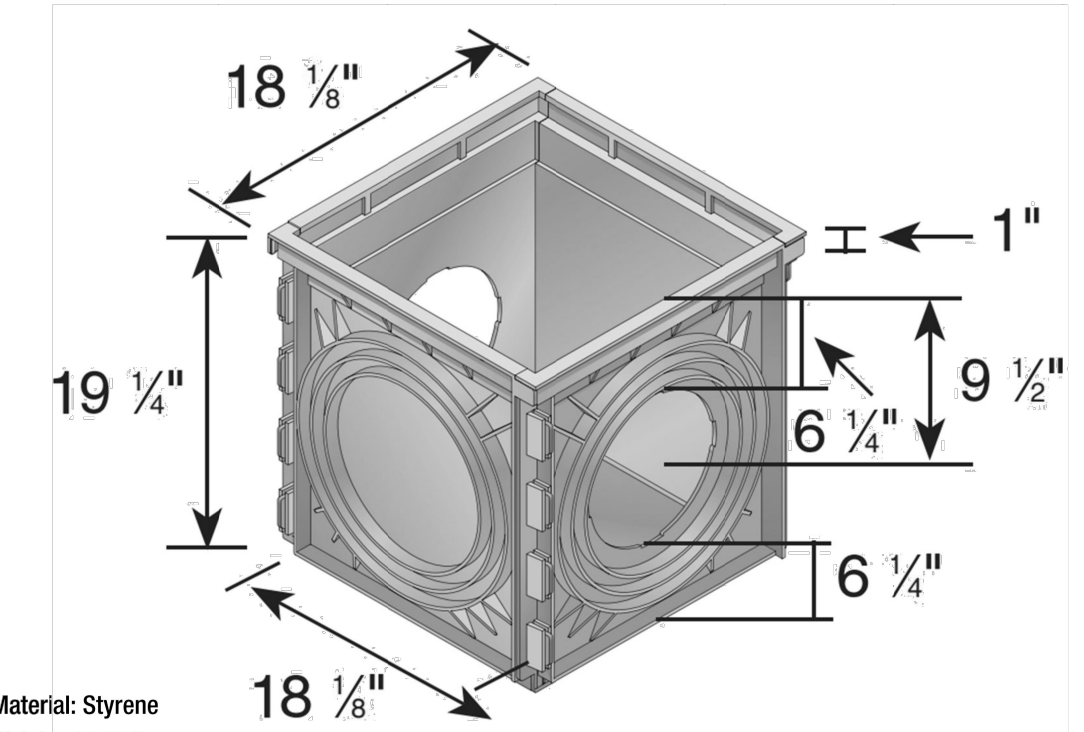
1. Applicable products: N-12[®], MEGA GREEN[®], N-12 STIB, N-12 WTIB, HP STORM, SantiTile[®], SantiTile HP, N-12 Low Head

Note: Based on a design Manning's "n" of 0.012. Solid lines indicate pipe diameters. Dashed lines indicate approximate flow velocity. Redeveloped from FHWA HDS 3 - Design Charts for Open-Channel Flow²

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18" EXPANDABLE CATCH BASIN

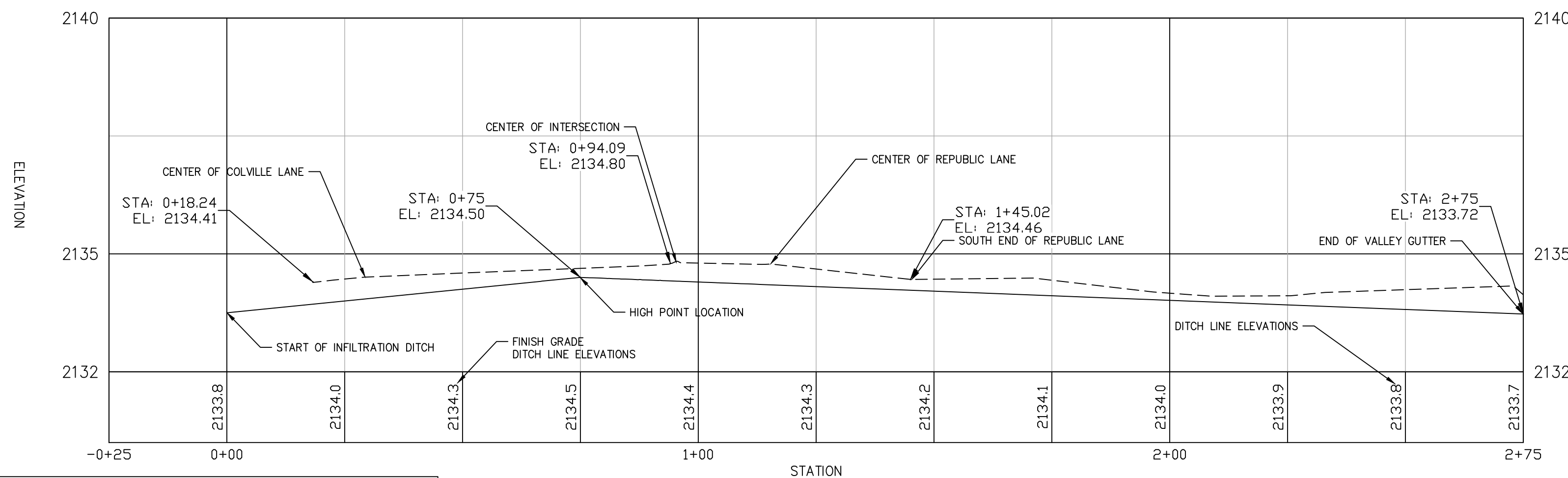


- Material: Styrene
Weight: 16.00 lbs
Colors: Black
- 18" Expandable Catch Basin with 2 Openings (1800)
Composed of 2 #1820, 2 #1822, 1 #1828
Includes 2 #1890 Reducer Rings
 - 18" One Piece Catch Basin with 4 Openings (1804)
Includes 4 #1890 Reducer Rings
- Requires either #1206, #1242, #1245, #1266, #1888, or #1889 universal outlet to connect pipe. Connections are soil tight, require water proof silicone to make connections water tight

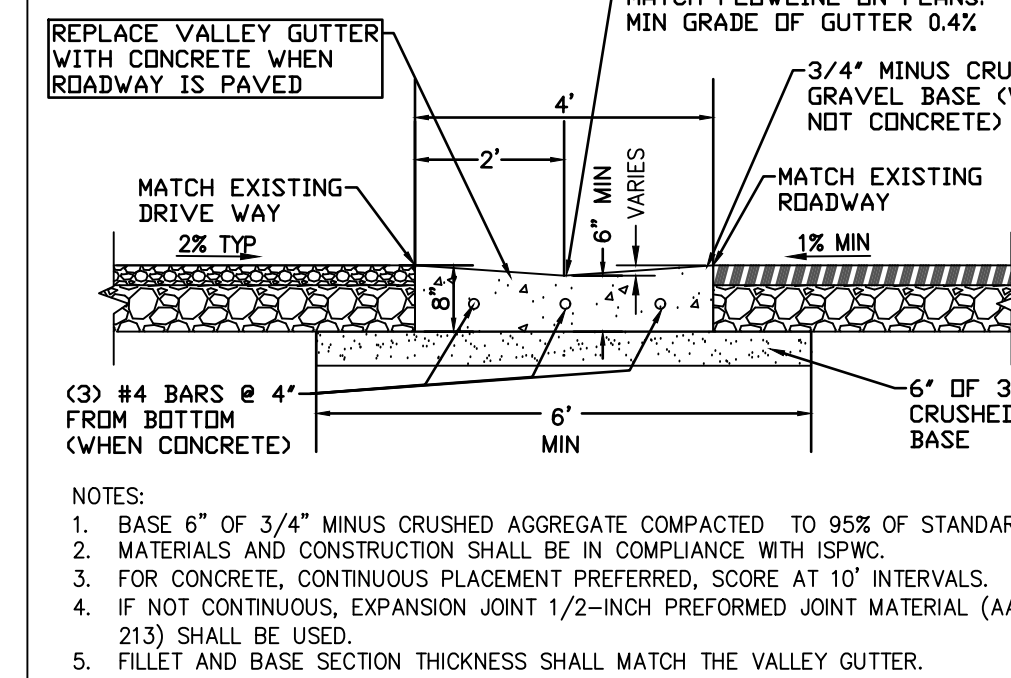
C
4 RECOMMEND CATCH BASIN N.T.S.

B
4 PIPE NETWORK CAPACITY N.T.S.

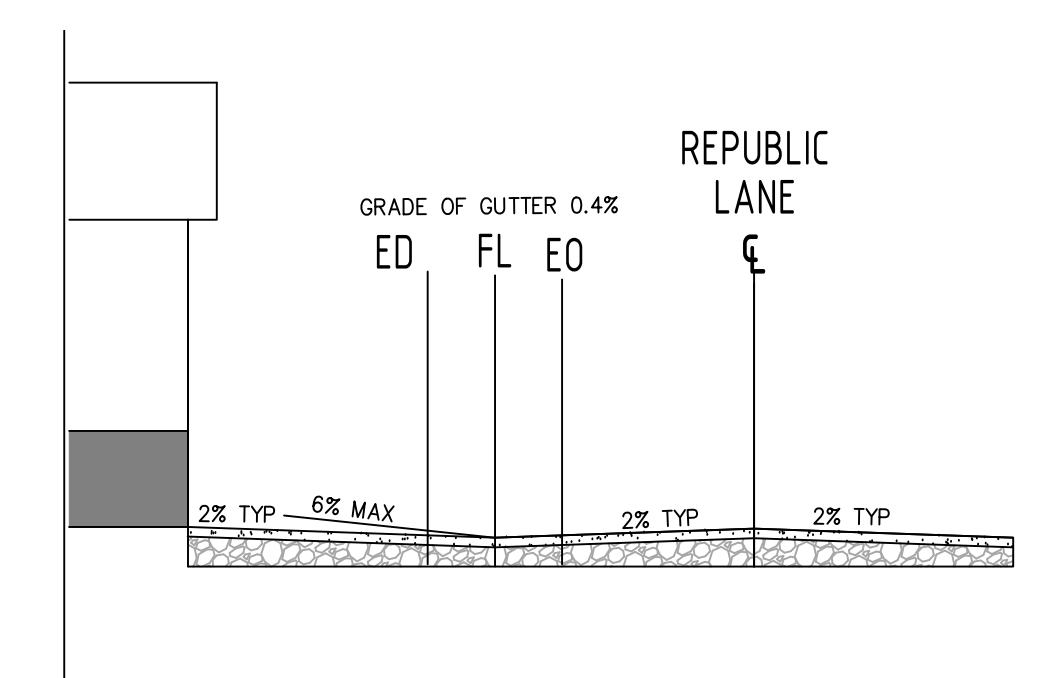
ROADSIDE DITCH PROFILE



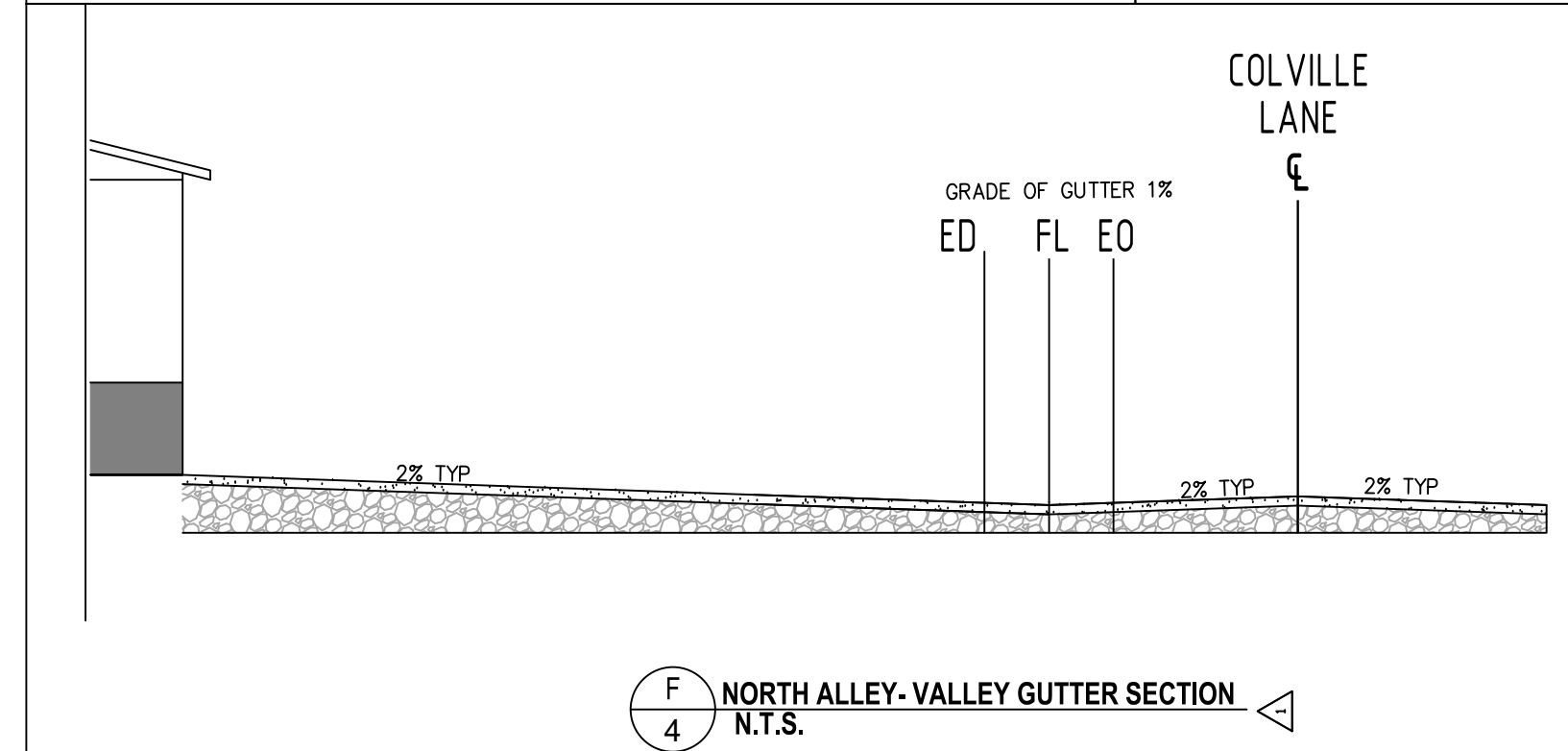
PROFILE SCALE:
HORIZONTAL: 1"=20'
VERTICAL: 1"=2'
(VALID FOR 24"x36" OR 22"x34")



D
4 VALLEY GUTTER N.T.S.



E
4 EAST ALLEY - VALLEY GUTTER SECTION N.T.S.



F
4 NORTH ALLEY - VALLEY GUTTER SECTION N.T.S.

PHIL MCNEARNEY
MCNEARNEY SHOP 2
PONDERAY, IDAHO



PROFESSIONAL ENGINEER
REGISTERED
10086
STATE OF IDAHO
DANIEL W. LARSON

PROJECT NO: 2194
DRAWN BY: JCE
CHECKED BY: DWL
SCALE: N.T.S.
(VALID FOR 24"x36" OR 22"x34")
SHEET 4A OF 4