CITY OF MILLERSBURG, OREGON

for the construction of the

TRANSITION PARKWAY AND LINEAR PARK

VOLUME 5
REFERENCE INFORMATION

Project No. 2022-006

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Bid Documents

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Corvallis, Oregon

May 2024

This project was funded in part with a financial award from the Special Public Works Fund, funded by the Oregon State Lottery and administered by the Oregon Infrastructure Finance Authority.

Project No. D3395316 Copy No._____

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January 29, 2024

Technical Memorandum

Radiation Sources and Remedial Actions for the SAA Property in Millersburg, OR

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Introduction

This memorandum addresses potential concerns regarding the naturally occurring radiological material (NORM) that is present at the Soil Amendment Area, or SAA (hereafter "Site"). The Site is located on Conser Road NE in Millersburg, Oregon (Linn County) and is approximately 41 acres in size. In 1975 and 1976, the Oregon Department of Environmental Quality (DEQ) issued a solid waste permit for a one-time application of solids from ATI's (formerly Teledyne Wah Chang) wastewater treatment system as an experimental soil amendment. The solids applied to the soil contained NORM from the processing of zircon sands. The Site was listed on the National Priorities List (NPL) in 1983 by the Environmental Protection Agency (EPA). Ownership of the SAA was transferred to the City of Millersburg in 1990 (EPA 2006).

Radiation Sources at the SAA

The NORM used on the SAA consisted primarily of radium-226. Radium is a naturally occurring, silvery white radioactive metal that is formed when uranium and thorium decay in the environment. It has been found at very low levels in soil, water, rocks, coal, plants, and food (NCRP 1984; WHO 2012). Radium-226 decays into radon-222 when it undergoes a nuclear transformation. The rate of this transformation is driven by the half-life of radium-226, or the time required for half of the radium-226 atoms to transform into radon-222. Given that the half-life of radium-226 is 1,602 years, the radiological concerns associated with its presence may require remedial actions and institutional controls for extensive periods of time.

Radon-222 is a gas that when inhaled represents one of the largest sources of radiation exposure in the environment and is found in both outdoor and indoor air of buildings of all kinds (EPA 2003). Radon-222, with a 3.8-day half-life, decays to into a series of short-lived decay products that get filtered by the human lungs when inhaled. The National Council on Radiation Protection and Measurements (NCRP) has documented contributions from sources of radiation exposure to the total radiological dose per individual in the U.S. population, most recently for the year 2006 (NCRP 2009). The NCRP report estimates that radon exposure accounts for ~75% of an individual's yearly dose from natural background sources (not including medical sources).

Radon levels vary widely across the United States, with elevated levels most commonly found in the Appalachians, the upper Midwest, and the Rocky Mountain states (NCRP 2009; Marsh et al. 2010). The average radon concentration in the indoor air of America's homes is about 1.3 pCi/liter (pico-Curie per liter of air). For enclosed structures in Linn County, the average radon concentration is less than 2.0 pCi/ liter. The average radon concentration in outdoor air is 0.4 pCi/ liter, or one-tenth of EPA's 4 pCi/ liter action level (EPA 2003). The EPA action level of 4 pCi/ liter is directly correlated to the amount of radium-226 present in the ground surrounding and beneath an enclosed structure. The presence of radium-226 is typically measured in units of pCi per gram of material, or pCi/gram.

Terrestrial radiation, or external terrestrial radiation, consists of radiation emitted from natural sources in the earth and accounts for roughly 7% of an individual's yearly background exposure (NCRP 2009). The primary path of exposure from terrestrial radiation is simply being in close proximity to the source in the environment (e.g., standing on soil, concrete, etc.). Sources such as radium-226 and the short-lived radon-222 decay products are contributors to terrestrial radiation due to the gamma-ray and x-ray emissions that are associated with their decay. Accurate measurement of the external gamma radiation levels in units of

µrem/hour (micro-rem per hour) is used to monitor and control potential exposures to terrestrial radiation sources.

Remedial Actions for SAA

There are two governing documents that provide the regulatory framework for the Site as it pertains to NORM and corresponding radiological safeguards and remedial actions:

1. The EPA *Record of Decision, Declaration, Decision Summary and Responsiveness Summary of Final Remedial Action for Surface and Subsurface Soil Operable Unit* (the "ROD") with ATI (EPA 1995).
2. The City of Millersburg Consent Decree (EPA et al. 2006).

In the ROD, dated September 27, 1995, the EPA Region 10 Regional Administrator selected a remedial action plan for the Site (EPA 1995).

The ROD remedial actions pertaining to radionuclide contamination addressed the risks posed by surface external gamma radiation and radon. From Section 10.1 of the ROD, it is stated that Site

> *Areas with surface gamma radiation levels exceeding 20 µrem/hour over background levels (equal to 30.5 µrem/hour) averaged over 100 square meters will be excavated.*

The SAA uses a "reference level" of 12.5 µrem/hour (ROD Section 6.4.1.1) as background (rather than the 10.5 µrem/hour Main Plant background level), resulting in a gamma cleanup level of 32.5 µrem/hour. From Table 6-5 and Figure 6-6 of the ROD, it is clear that none of the averaged gamma radiation levels exceeded the 32.5 µrem/hour cleanup level (20 µrem/hour above the reference level, measured at a height of 1 meter). In fact, none of the average levels were found to be more than 10 µrem/hour over the reference level. As a result, no remedial action pertaining to external gamma radiation levels was required for the SAA.

In November of 2021, an SAA scoping survey was performed by GSI Water Solutions, Inc. on behalf of the City of Millersburg. The results of this survey were published in a technical memorandum on January 28, 2022 entitled *Soil Amendment Area Scoping Survey Summary*. The memorandum demonstrated that the geospatial behavior in 2021 is consistent with that of the 1995 ROD gamma survey. In their December 5, 2022 report entitled *Evaluation of SAA Remedial Actions and GSI Survey Results*, the Certified Health Physicists at Radian Scientific demonstrated that the results presented in the GSI memorandum are consistent with the conclusion of the 1995 ROD that no areas in the SAA exceed the gamma radiation levels of 20 µrem/hour above the reference level. In fact, their review suggested that the gamma radiation levels at the SAA are more than likely at or below the levels measured in the original 1995 ROD and therefore the ROD conclusion of no remedial actions pertaining to surface gamma radiation levels is still valid.

Remedial actions for mitigating radon in future buildings are provided in Section 10.2 of the ROD where it is stated that

> *Action for radon is required for the entire Soil Amendment Area, and for areas on the Main Plant plan where surface and subsurface soil radium-226 concentrations exceed 3 pCi/gram. These areas could exceed the action level for radon of 4 pCi/liter if buildings are constructed in the future.*

Additionally,

> *The selected remedy requires that future buildings be constructed using radon controlling construction methods.*

It goes on to say,

> *The only other effective remedial alternative for mitigation of radon in the Soil Amendment Area was excavation of soil to background levels. This option was eliminated as being prohibitively expensive. Current plans for the Soil Amendment Area are for use as an industrial park. During a meeting with the city of Millersburg, it was suggested that the contaminated material in the Soil Amendment Area might be excavated and used to construct landscaping and berms. The efficacy of this potential option has not been considered. However, if it is later offered as a potential option by the City, proves viable, and meets the remedy selection criteria, EPA may reconsider this portion of the selected remedy.*

The EPA did in fact reconsider this alternative in the *Explanation of Significant Differences to the To the September 27, 1995 Record of Decision: Final Remedial Action for Surface and Subsurface Soil Operable Unit* (the "ESD"; EPA 2001), where it provided the city of Millersburg the option for radium-226 contaminated soil in the SAA to be excavated to an EPA approved radium-226 concentration with the excavated material being used in on-site berms or disposed of in an EPA approved off-site landfill (Section 4.6 of ESD; EPA 2001). The EPA approved radium-226 level is one that is "statistically indistinguishable" from background. The risk from radon in future buildings must not exceed an excess cancer risk of $1x10^{-4}$ (Section 4.2.2.3 of ESD; EPA 2001). Modeling results indicate that approximately 0.3 pCi/gram radium-226 equates to the $1x10^{-4}$ risk level. This concentration is approximately 25% of the background radium-226 concentration and is unlikely to be differentiable from background levels analytically.

In October of 1996, the City of Millersburg, the EPA, the Oregon Department of Environmental Quality (ODEQ) and Teledyne Wah Chang entered into a Consent Decree implementing the decisions outlined in the ROD (EPA 2006). Exhibit C of this Consent Decree is the *Requirements for Remedial Design and Remedial Action (RD/RA) for Soil Removing or Berming* and Exhibit A is the *Environmental Protection Easement and Equitable Servitude*. In Section 3 of Exhibit A, it is stated that the applicability of building construction requirements on the SAA "<u>does not apply to open structures such as parking areas (including parking areas that are covered, but not enclosed), exterior storage areas, utility vaults, or other similar structures</u>." Furthermore, the introductory paragraph of Exhibit C goes on to say that "<u>earth moving and site grading activities associated with development or construction do not constitute excavation activities subject to this Exhibit C.</u>"

The Consent Decree specifically differentiates between excavation for purposes of building an enclosed building and the earth moving and site grading activities that may occur at the SAA for other purposes. According to the Consent Decree, the building of roads, parking lots, storage areas, etc., would not require any radon mitigation building techniques, nor would they require soil excavation to an EPA approved radium-226 level. Activities such as earth moving and site grading are not considered excavation and the materials moved within the SAA would not require berming or disposal at an EPA-approved landfill.

Radiological Risks Associated with SAA

Risk in the context of radiation exposure is the increased chance of developing cancer above the rate normally expected in the population at large, where according to the most recent report by National Academy of Sciences Biologic Effects of Ionizing Radiation (BEIR), 42 out of 100 persons are expected to develop cancer from sources other than radiation exposure in their lifetime (NRC 2006). Risk estimates that are used to predict public health effects are based on detailed epidemiological studies of exceedingly well-defined populations. Such studies have not demonstrated health effects to individuals exposed to less than 10,000 millirem (mrem) as statistical limitations making it difficult to evaluate cancer risk in humans at these lower doses (HPS 2004; NRC 2006). A comprehensive review of available biological and biophysical data led the BEIR committee to assume that the risk would continue in a linear fashion at lower doses without a threshold (i.e., any dose greater than zero has the potential to cause a small increase in risk to humans). This assumption is termed the "linear-no-threshold" (LNT) model.

The EPA performed a detailed radiological human risk assessment for the SAA, as documented in Section 7.0 of the ROD (EPA 1995). The EPA used an incremental excess lifetime cancer risk threshold of $1x10^{-4}$ (incremental means risk in excess of background risk). An incremental excess cancer risk of $1x10^{-4}$ indicates that an individual has a 1 in 10,000 chance of developing cancer when exposed to a given amount of radiation over their lifetime. The radiation dose corresponding to a risk level of $1x10^{-4}$ is 100 mrem (NRC 2006). While this dose is 100 times lower than the 10,000 mrem discussed previously, the LNT model provides a risk estimate associated with this low dose. By comparison, the background or normal lifetime risk of developing cancer is $4.2x10^{-1}$ (42 out of 100).

The threshold value of 20 µrem/hour (or 0.02 mrem/hour) above background is selected to ensure the risk from gamma exposure is minimized. Exposure to the external gamma radiation field of the SAA occurs when an individual is either standing directly on the SAA soil surface or on a ground covering directly over the SAA soil (parking lot, road, slab foundation, etc.). The EPA considered the current use of the SAA (agricultural) and anticipated future use (industrial) when identifying likely exposure scenarios (EPA 1995). In the agricultural setting, the individual is assumed to spend 40 hours per week outside for a period of 30 days per year for 25 years. In the industrial setting, the individual is assumed to spend 10 hours per week outside and 30 hours per week inside a building located on top of SAA soil for a period of 250 days per year for 25 years. Based on the average gamma exposure rates of the SAA, the incremental excess lifetime cancer risk for the agricultural scenario was found to be of $9.1x10^{-6}$ (EPA 1995). The average incremental excess lifetime cancer risk for the future industrial scenario was $5.8x10^{-5}$. Both of these scenarios are below the EPA threshold value of $1x10^{-4}$ and can be considered insignificant when compared to the normal cancer risk from sources other than radiation.

The 20 µrem/hour above background threshold is consistent with the EPA's indoor gamma radiation limit for the remediation of inactive uranium processing sites (EPA 1982). The National Research Council estimated that the annual gamma radiation dose associated with 20 µrem/hour above background is roughly 100 mrem (i.e., risk level of $1x10^{-4}$) (NRC 1999). As a point of reference, the NCRP estimates that on average, a person in the United States receives about 311 mrem of dose each year from natural background radiation sources (NCRP 2009).

Conclusion

The ROD, ESD, and Consent Decree provide very clear guidance on remedial actions required for the SAA. If an enclosed building is going to be built on the SAA, the risk of radon must be mitigated in one of two ways:

1. If no excavation of radium-226 contaminated soils will occur at the proposed build site, enclosed buildings must be constructed using radon controlling construction methods.
2. In the absence of approved radon controlling construction methods, radium-226 contaminated soils must be excavated to a cleanup level that is statistically indistinguishable from background. The excavated soil can be bermed at the SAA or disposed of at an off-site landfill (ESD Section 4.6.2).

Exhibit A and C of the Consent Decree state that such remediation actions are not required for activities such as road building, parking lot building, or earth moving and site grading.

The risk associated with external gamma radiation is mitigated by ensuring that radionuclides present in the SAA soils do not result in a gamma dose rate greater than 20 µrem/hour above background, measured at 1 m above the surface and averaged over 100 m^2. Areas where this cleanup level is exceeded must be excavated. It has been concluded in the ROD, and subsequently supported by analyzing the GSI scanning survey results, that the SAA does not contain any areas that need to be excavated to mitigate the gamma radiation risks.

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2. Geotechnical Data Report

Geotechnical Data Report

Document no: 230928093106_fe77bcbf
Final

City of Millersburg

Millersburg Transition Parkway Project
Volume 1
May 20, 2024

Geotechnical Data Report

Client name:	City of Millersburg		
Project name:	Millersburg Transition Parkway Project		
Document no:	230928093106_fe77bcbf	**Project no:**	D3395316
Revision no:	Final	**Project manager:**	Matthew Baldwin
Date:	May 20, 2024	**Prepared by:**	Jithin Nair, EIT.
		File name:	Millersburg Transition Parkway_GeotechDataRpt_Final

Document History and Status

Revision	Date	Description	Author	Reviewed	Approved
Draft	9/29/2023	For Review	Jithin Nair	Paul Davis	Paul Davis
Final	5/20/2024		Jithin Nair	Paul Davis	Paul Davis

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Acronyms and Abbreviations

ASTM	ASTM International
bgs	below ground surface
City	City of Millersburg

1. Introduction

This Geotechnical Data Report provides a summary of geotechnical data collected for the Millersburg Transition Parkway Project for City of Millersburg (City). The City is going to construct improvements to the Central Industrial Property, located adjacent to and south of Conser Road NE between the existing segment of NE Transition Parkway and Woods Road NE to support industrial development. The project improvements include an arterial road, stormwater management facilities for the arterial road, extension of water and sewer utilities in the arterial road right of way, and a linear park including a multi-use path to provide a buffer between the residential areas north of Conser Road NE and future industrial development.

The scope of work included the following:

- Review geologic data along project alignment.
- Perform a subsurface exploration by drilling six soil borings and excavating six test pits located along the project alignment. Field geotechnical data collection was performed by Jacobs.
- Perform laboratory testing on selected soil samples to evaluate engineering properties of subsurface materials along the project alignment.
- Prepare this Geotechnical Data Report.

The collected soil data will be interpreted to provide geotechnical recommendations to aid in the design and construction of the project. The geotechnical interpretation of the data and recommendations for design criteria for the facilities will be presented in a separate Geotechnical Recommendations Report by Jacobs.

2. Project Description

NE Transition Parkway will be extended approximately 0.7 mile from the existing eastern segment of NE Transition Parkway, adjacent to Millersburg Fire Station 15, to Conser Road NE, as shown on Figure 1. The storm drain system and potable water pipelines will be routed through City right-of-way along new NE Transition Parkway. The potable water pipeline will consist of 12-inch ductile iron and 20-inch high-density polyethylene water lines and connections to existing lines. The storm drain pipeline will consist of 12-inch and 36-inch ductile iron and polyvinyl chloride materials.

The pipelines will be constructed using conventional open-cut trench excavation methods for the majority of the pipeline. One trenchless installation is currently proposed beneath the BNSF Railway tracks.

3. Review of Local Geologic and Soil Data

Before the geotechnical exploration, geologic maps and soil reports were reviewed. Geologic information for the site and the surrounding area was obtained from the *Preliminary Geologic Maps of The Albany Quadrangle, Linn, Marion, and Benton Counties, Oregon* (Wiley 2006).

Surficial deposits in the vicinity of the site are mapped as Willamette silt (Q_{ws}). The Willamette silt deposits typically consist of thin- to medium-bedded rhythmites of silt, sandy silt, and silty clay that were caused by repeated Missoula (Bretz) floods when glacial dams in the upper Columbia River drainage catastrophically failed and generated floodwaters that temporarily filled the Willamette Valley. Beneath the Willamette silt older, buried, soils and weathered zones are often preserved along the top of the buried unit. Underlying the Quaternary Willamette silt is a late Pleistocene deposit consisting of Stratified bench gravel, sand, and mud, locally referred to as Leffler Gravel (Q_{le}). The thickness of Leffler gravels is estimated up to 50 feet. The Willamette silt and Leffler gravels are underlain by the Spencer Formation (T_{es}). The Spencer Formation consists of shallow marine sandstone, pebbly sandstone, conglomerate, siltstone, claystone, and coal.

Soil reports available from the National Resources Conservation Service provide information on shallow soil materials to about 6 feet deep. The mapped Willamette silt on the Natural Resources Conservation Service interactive geologic map corresponds with the Amity silt loam, Willamette Silt loam, and Woodburn silt loam soils in the soil report covering the project alignment (NRCS n.d.).

4. Field Exploration

Jacobs conducted a geotechnical exploration for Millersburg Transition Parkway in January 2023 to collect soil samples for laboratory testing and to observe soil materials and conditions. Four soil borings and six test pits were explored along the project alignment and two deep soil borings were drilled at trenchless crossing locations near the proposed launch and receiving pits as summarized in Table 1. Figure 2 shows the approximate locations of the boreholes. Soil boring logs are included in Appendix A.

Before starting the geotechnical subsurface exploration program, Jacobs notified the Oregon Utility Notification Center and obtained the necessary utility clearances. The borings were located in the field by Jacobs and adjusted to avoid utility conflicts.

Table 1. Summary of Geotechnical Exploration

Boring No.	Latitude	Longitude	Ground Surface Elevation (feet)	Completion Depth (feet bgs)	Exploration Method Type	Location
B-1-23	44.6808	-123.0762	234	21.5	Hollow Stem Auger	East of power station
B-2-23	44.6808	-123.0726	231	21.5	Hollow Stem Auger	South of Conser Road NE
B-3-23	44.6808	-123.0670	241	21.5	Hollow Stem Auger	South of Conser Road NE
B-4-23	44.6808	-123.0642	225	21.5	Hollow Stem Auger	South of Conser Road NE
B-5-23	44.6796	-123.0775	212	61.5	Sonic Core	South of power station
B-6-23	44.6793	-123.0787	211	61.5	Sonic Core	Southwest of substation on the other side of rail
TP-1-23	44.6808	-123.0753	233	10	Excavation	South of Conser Road NE
TP-2-23	44.6808	-123.0739	235	10	Excavation	South of Conser Road NE
TP-3-23	44.6808	-123.0670	229	10	Excavation	South of Conser Road NE
TP-4-23	44.6808	-123.0656	225	10	Excavation	South of Conser Road NE
TP-5-23	44.6804	-123.0644	224	10	Excavation	South of Conser Road NE
TP-6-23	44.6796	-123.0644	225	10	Excavation	Southwest of fire station

Abbreviations:
bgs = below ground surface

The exploratory test borings were advanced using a hollow-stem auger drilling and sonic core drilling method with an 8-inch-diameter auger and a truck-mounted CME-850, as well as an 8-inch-diameter barrel and a track-mounted Geoprobe 8150 drill rig. The test pits were excavated using a Deere 50G compact excavator. The borings and test pits were located as close to the proposed project alignment as possible considering equipment accessibility, utility easements, encroachment, and property access. Locations were measured from existing site features during the field investigation and have not been surveyed. The locations and elevations are approximate.

In situ testing and soil sampling were performed in the soil borings using standard penetration test split-spoon samplers at 5-foot intervals. The standard penetration test was performed in accordance with ASTM International (ASTM) D1586, *Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils* (ASTM 2022). The blow counts recorded on the logs and graphical profiles in this report

are the actual blows per foot recorded during drilling and are not corrected for overburden or hammer energy.

The split-spoon samplers provide a disturbed sample of the soil and an empirical indication (N-value) of the soil density or consistency. The Jacobs field representative provided continuous field observations and logging of the soils encountered. Visual classification of collected soil samples was completed in accordance with ASTM D2488, *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)* (ASTM 2018a). Sample descriptions, results of field tests, and observations made during drilling were recorded on the soil boring and test pit logs. Where laboratory tests were available, the soil classification was re-evaluated and updated if necessary.

5. Soil Laboratory Testing

FEI Testing & Inspection, Inc of Corvallis, Oregon, performed a series of laboratory tests on representative soil samples recovered from the soil borings and the test pit. The visual field classifications were modified, as necessary, based on laboratory test results. The following laboratory tests were conducted:

- Natural moisture content in accordance with ASTM D-2216, *Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass* (ASTM 2019)
- Percent finer than No. 200 sieve in accordance with ASTM D-1140, *Standard Test Methods for Determining the Amount of Material Finer than 75-µm (No. 200) Sieve in Soils by Washing* (ASTM 2017a)
- Particle-size analysis in accordance with ASTM D-6913, *Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis* (ASTM 2017b)
- Liquid limit, plasticity limit, and plasticity index of soils – Atterberg limits in accordance with ASTM D-4318, *Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils* (ASTM 2018b)

Table 2 summarizes the laboratory test results, which also are presented on the field boring logs in Appendix A next to the corresponding sample. Appendix B provides the laboratory test results.

Table 2. Summary of the Laboratory Results

Boring No.	Sample	Depth (feet bgs)	USCS Soil Type	Moisture Content (%)	Sieve			Atterberg Limits	
					Gravel (%)	Sand (%)	Fines (%)	Liquid Limit	Plasticity Limit
B-1-23	1-SS	2.5	CL	31.3	-	-	73.2	-	-
B-1-23	2-SS	5	CL	28.9	-	-	-	43	21
B-2-23	1-SS	2.5	CL	30.6	-	-	-	42	24
B-2-23	2-SS	5	CL	33.2	-	-	87.9	-	-
B-3-23	3-SS	10	ML	23	-	-	65	-	-
B-3-23	4-SS	15	MH	51.8	-	-	-	75	41
B-4-23	2-SS	5	ML	35.1	-	-	-	42	27
B-4-23	3-SS	10	ML	31	-	-	74.5	-	-
B-5-23	2-SS	5	CL	30.5	-	-	56.2	-	-
B-5-23	3-SS	7.5	CL	35.5	-	-	-	34	21
B-5-23	4-SS	10	CL	34.1	-	-	72.7	-	-
B-5-23	5-SS	12.5	CL	34.2	-	-	-	33	22
B-5-23	8-SS	20	CL	31.6	0	20	80	-	-
B-5-23	10-SS	30	SM	27	0	61	39	-	-
B-5-23	13-SS	45	SM	21.7	0	76	24	-	-
B-5-23	15-SS	60	SM	21.5	-	-	22	-	-
B-6-23	1-SS	2.5	CL	34.1			-	39	25
B-6-23	2-SS	5	CL	26.6	-	-	57.7	-	-
B-6-23	3-SS	7.5	CL	33.7	-	-	-	34	21
B-6-23	6-SS	15	CH	34.7	-	-	-	53	23
B-6-23	9-SS	25	SP-SM	13.2	41	48	11	-	-
B-6-23	11-SS	35	SP-SM	27.8	0	84	16	-	-
B-6-23	13-SS	45	SM	25.1	0	71	29	-	-
B-6-23	15-SS	60	SM	21.4	0	71	29	-	-

Abbreviations:
-- = not applicable
bgs = below ground surface
CH = fat clay
CL = lean clay
MH =elastic silt
ML = sandy silt or silt with sand
SM = silty sand
SP-SM = poorly graded sand with silt
USCS = Unified Soil Classification System

6. General Soil Profiles

The pipeline will generally be installed using conventional open-cut excavation methods with a pipe cover depth of approximately 3 to 5 feet bgs. Trenchless crossings are proposed to be installed using auger boring methods at depths of 10 to 20 feet bgs. The soil profile at the trenchless crossing is described in

Section 6.1, and is based on two borings drilled at the railroad crossing—one on the west side and one on the east side of the existing features. Detailed descriptions of soil materials encountered in the explorations are presented on the soil boring and test pit logs in Appendix A.

6.1 Railroad Crossing

The upper 22 to 25 feet bgs at the railroad crossing was Willamette silt, which generally consisted of lean clay, with a bottom layer of sandy clay with gravel sandy lean clay. The clay soil materials had a plasticity index of 11 to 14, indicating medium plasticity. The clay soils were firm to stiff, with uncorrected N-values varying from 4 to 12.

The upper clayey clay soils were underlain by Leffler gravels. Leffler gravels generally consist of poorly graded sand, silt sand, and sand with silt with varying amount of gravels present. The Leffler gravels were dense to very dense, with uncorrected N-values varying from 32 to greater than 50. Railroad crossing borings (B-5-23 and B-6-23) extended to 61.5 feet bgs and terminated in this unit.

6.2 Fire Station to Power Station Alignment

The upper 20 feet bgs along the roadway alignment also was Willamette silt, which consisted of silt, lean clay and elastic silt with trace sand. The Willamette silt soils along the alignment had a plastic index of 15 to 41, indicating medium to high plasticity and uncorrected N-values varying from 7 to 27 indicating firm to very stiff conditions. The borings and test pits along the alignment terminated in this unit.

7. Groundwater

Groundwater was not observed in borings or test pits during the January 2023 exploration program.

8. Limitations

This report has been prepared for the exclusive use of the City for specific application to the Millersburg Transition Parkway Project in accordance with generally accepted geotechnical engineering practice. No other warranty, express or implied, is made.

The data contained in this report were collected during the geotechnical subsurface investigations for the proposed roadway and pipeline. Soil borings indicate subsurface conditions only at specific locations and times, and only to the depths penetrated. They do not necessarily reflect strata variations that may exist between such locations.

Jacobs is not responsible for claims, damages, or liability associated with the subsurface data or reuse of the subsurface data without the express written authorization of Jacobs.

9. References

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Figures

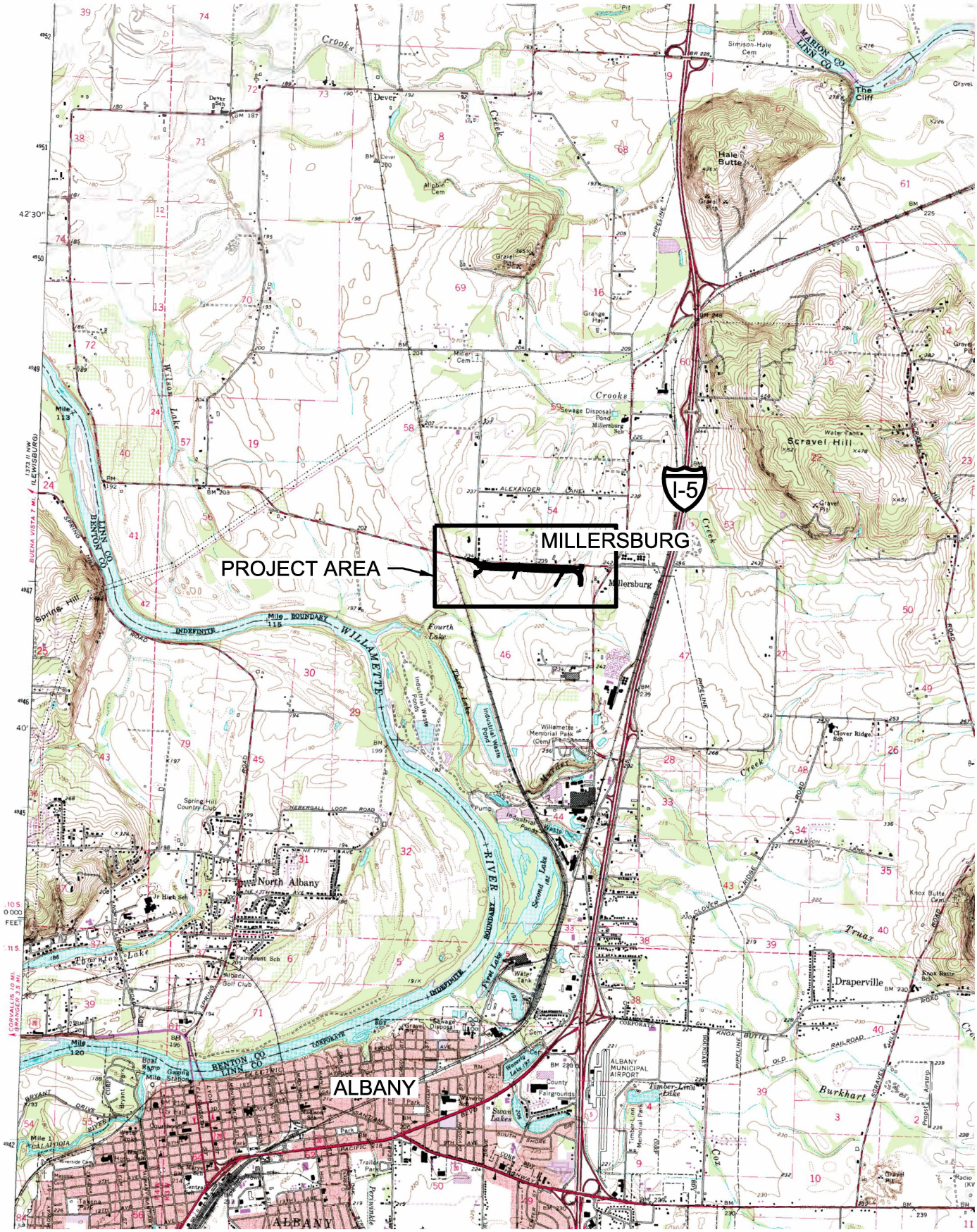

FIGURE 1
PROJECT VICINITY

TRANSITION PARKWAY AND LINEAR
PARK MILLERSBURG, OREGON

D3395316

Jacobs

GeotechReport-Figure1_D3395316.dgn

FIGURE 2
GEOTECHNICAL EXPLORATION PLAN

TRANSITION PARKWAY AND LINEAR PARK
MILLERSBURG, OREGON

D3395316

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FILENAME: GeotechReport-Figure2_D3395316.dgn PLOT DATE: 9/7/2023 PLOT TIME: 4:54:52 PM

Appendix A
Ground Exploration Logs

Jacobs

PROJECT NUMBER:	BORING NUMBER:	
D3395316	B-1-23	SHEET 1 OF 1

SOIL BORING LOG

PROJECT : Millersburg Transition Parkway, Millersburg, OR LOCATION : (44.7 N, -123.1 E)

ELEVATION : 234.0 ft DRILLING CONTRACTOR : Western States Soil Conservation

DRILLING EQUIPMENT AND METHOD : CME-850, Track-Mounted Drill, Hollow Stem Auger ORIENTATION : Vertical

WATER LEVELS : --- START : 1/5/23 10:45 END : 1/5/23 11:30 LOGGER : J.S. Nair

DEPTH BELOW EXISTING GRADE (ft)	INTERVAL (ft)	SAMPLE RECOVERY (ft)	#TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	SYMBOLIC LOG	COMMENTS DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION
234.0					**TOPSOIL/DUFF**		
	2.5						
	4.0	1.5	1-SS	3-4-4 (8)	**LEAN CLAY (CL)** brown, moist, firm, low to medium plasticity, trace fine sand		Lab Results: MC : 31.3% P200 : 73.2%
5	5.0						
229.0	6.5	1.2	2-SS	3-3-6 (9)	**LEAN CLAY (CL)** similar to above, except stiff		Lab Results: MC : 28.9% LL : 43 PI : 22
10	10.0						
224.0	11.5	1.2	3-SS	3-5-6 (11)	**LEAN CLAY (CL)** similar to above		
15	15.0						
219.0	16.5	1.4	4-SS	20-24-42 (66)	**SANDY SILT (ML)** brown, moist, hard, low to medium plasticity, fine to medium sand		
20	20.0						
214.0	21.5	1.5	5-SS	27-26-31 (57)	**POORLY GRADED SAND (SP)** brown gray, moist, very dense, fine to medium sand		
					Bottom of Boring at 21.5 ft bgs on 1/5/23 11:30		
25 209.0							
30							

Jacobs

PROJECT NUMBER:	BORING NUMBER:	
D3395316	B-2-23	SHEET 1 OF 1

SOIL BORING LOG

PROJECT : Millersburg Transition Parkway, Millersburg, OR LOCATION : (44.7 N, -123.1 E)

ELEVATION : 231.0 ft DRILLING CONTRACTOR : Western States Soil Conservation

DRILLING EQUIPMENT AND METHOD : CME-850, Track-Mounted Drill, Hollow Stem Auger ORIENTATION : Vertical

WATER LEVELS : --- START : 1/5/23 09:40 END : 1/5/23 10:30 LOGGER : J.S. Nair

DEPTH BELOW EXISTING GRADE (ft)	INTERVAL (ft)	SAMPLE RECOVERY (ft)	#TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	SYMBOLIC LOG	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION
231.0					**TOPSOIL/DUFF**		
	2.5						
	4.0	1.5	1-SS	3-3-4 (7)	**LEAN CLAY (CL)** brown, moist, firm, low to medium plasticity, trace fine sand		Lab Results: MC : 30.6% LL : 42 PI : 18
5	5.0						
226.0	6.5	1.5	2-SS	1-3-4 (7)	**LEAN CLAY (CL)** similar to above		Lab Results: MC : 33.2% P200 : 87.9%
10	10.0						
221.0	11.5	1.5	3-SS	2-5-6 (11)	**LEAN CLAY (CL)** similar to above, except stiff, ferrous staining		
15	15.0						
216.0	16.5	1.4	4-SS	7-12-15 (27)	**SANDY SILT (ML)** brown, moist, very stiff, low to medium plasticity, fine to medium sand, ferrous staining		
20	20.0						
211.0	21.5	1.5	5-SS	16-20-36 (56)	**SANDY SILT with GRAVEL (ML)** brown, moist, hard, low to medium plasticity, fine to medium sand, fine gravel, ferrous staining		
					Bottom of Boring at 21.5 ft bgs on 1/5/23 10:30		
25							
206.0							
30							

Jacobs

PROJECT NUMBER:	BORING NUMBER:	
D3395316	B-3-23	SHEET 1 OF 1

SOIL BORING LOG

PROJECT : Millersburg Transition Parkway, Millersburg, OR LOCATION : (44.7 N, -123.1 E)

ELEVATION : 241.0 ft DRILLING CONTRACTOR : Western States Soil Conservation

DRILLING EQUIPMENT AND METHOD : CME-850, Track-Mounted Drill, Hollow Stem Auger ORIENTATION : Vertical

WATER LEVELS : --- START : 1/5/23 08:30 END : 1/5/23 09:30 LOGGER : J.S. Nair

DEPTH BELOW EXISTING GRADE (ft)	INTERVAL (ft)	SAMPLE RECOVERY (ft)	#TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	SYMBOLIC LOG	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION
241.0					**TOPSOIL/DUFF**		
	2.5						
	4.0	0.4	1-SS	2-2-3 (5)	**SILT (ML)** brown, moist, firm, low to medium plasticity, trace fine sand		
5	5.0						
236.0	6.5	1.5	2-SS	3-4-5 (9)	**SILT (ML)** similar to above, except stiff		
10	10.0						
231.0	11.5	1.5	3-SS	5-7-10 (17)	**SILT (ML)** similar to above, except very stiff		Lab Results: MC : 23.0% P200 : 65.0%
15	15.0						
226.0	16.5	1.4	4-SS	3-5-7 (12)	**ELASTIC SILT (MH)** brown, moist, stiff, medium to high plasticity, trace fine sand		Lab Results: MC : 51.8% LL : 75 PI : 41
20	20.0						
221.0	21.5	1.5	5-SS	4-7-10 (17)	**ELASTIC SILT (MH)** similar to above, except very stiff		
					Bottom of Boring at 21.5 ft bgs on 1/5/23 09:30		
25							
216.0							
30							

Jacobs

PROJECT NUMBER:	BORING NUMBER:	
D3395316	B-4-23	SHEET 1 OF 1

SOIL BORING LOG

PROJECT : Millersburg Transition Parkway, Millersburg, OR LOCATION : (44.7 N, -123.1 E)

ELEVATION : 225.0 ft DRILLING CONTRACTOR : Western States Soil Conservation

DRILLING EQUIPMENT AND METHOD : Geoprobe 8150, Track-Mounted Drill, Sonic ORIENTATION : Vertical

WATER LEVELS : --- START : 1/4/23 08:30 END : 1/4/23 11:00 LOGGER : J.S. Nair

DEPTH BELOW EXISTING GRADE (ft)	INTERVAL (ft)	SAMPLE RECOVERY (ft)	#TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	SYMBOLIC LOG	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION
225.0					**TOPSOIL/DUFF**		
	2.5						
	4.0	1.4	1-SS	3-3-3 (6)	**SILT (ML)** brown, moist, firm, low to medium plasticity, trace fine sand		
5	5.0						
220.0	6.5	1.3	2-SS	4-4-5 (9)	**SILT (ML)** similar to above, except stiff		Lab Results: MC : 35.1% LL : 42 PI : 15
10	10.0						
215.0	11.5	1.5	3-SS	6-7-9 (16)	**SILT (ML)** similar to above, except very stiff		Lab Results: MC : 31.0% P200 : 74.5%
15	15.0						
210.0	16.5	1.4	4-SS	4-4-8 (12)	**SILT (ML)** similar to above, except stiff		
20	20.0						
205.0	21.5	1.5	5-SS	5-7-9 (16)	**SILT (ML)** similar to above, except very stiff		
					Bottom of Boring at 21.5 ft bgs on 1/4/23 11:00		
25 200.0							
30							

Jacobs

PROJECT NUMBER:	BORING NUMBER:	
D3395316	B-5-23	SHEET 1 OF 3

SOIL BORING LOG

PROJECT : Millersburg Transition Parkway, Millersburg, OR LOCATION : (44.7 N, -123.1 E)

ELEVATION : 212.0 ft DRILLING CONTRACTOR : Western States Soil Conservation

DRILLING EQUIPMENT AND METHOD : Geoprobe 8150, Track-Mounted Drill, Sonic ORIENTATION : Vertical

WATER LEVELS : --- START : 1/4/23 12:00 END : 1/4/23 16:30 LOGGER : J.S. Nair

DEPTH BELOW EXISTING GRADE (ft)	INTERVAL (ft)	SAMPLE RECOVERY (ft)	#TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	SYMBOLIC LOG	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION
212.0					**TOPSOIL/DUFF**		
	2.5						
	4.0	1.5	1-SS	2-5-7 (12)	**LEAN CLAY (CL)** brown, moist, stiff, low to medium plasticity, trace fine sand		
5	5.0						
207.0		1.5	2-SS	3-3-4 (7)	**LEAN CLAY (CL)** similar to above, except firm		Lab Results: MC : 30.5% P200 : 56.2%
	6.5						
	7.5						
	9.0	1.5	3-SS	5-2-3 (5)	**LEAN CLAY (CL)** similar to above		Lab Results: MC : 35.5% LL : 34 PI : 13
10	10.0						
202.0		1.5	4-SS	2-2-5 (7)	**LEAN CLAY (CL)** similar to above		Lab Results: MC : 34.1% P200 : 72.7%
	11.5						
	12.5						
	14.0	1.5	5-SS	3-4-3 (7)	**LEAN CLAY (CL)** similar to above		Lab Results: MC : 34.2% LL : 33 PI : 11
15	15.0						
197.0		0.0	6-SS	3-3-3 (6)	**No Recovery**		
	16.5						
	17.5						
	19.5		7-ST		**LEAN CLAY (CL)** gray, moist, medium plasticity, trace fine sand		
20	20.0						
192.0		1.5	8-SS	18-22-20 (42)	**LEAN CLAY WITH SAND (CL)** gray, moist, hard, low to medium plasticity, fine to medium sand		Lab Results: MC : 31.6% GRAVEL : 0% SAND : 20% FINES : 80%
	21.5						
25	25.0						
187.0		1.5	9-SS	16-27-31 (58)	**POORLY GRADED SAND (SP)** gray, moist, very dense, fine to medium sand		
	26.5						
30							

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PROJECT NUMBER:	BORING NUMBER:	
D3395316	B-5-23	SHEET 2 OF 3

SOIL BORING LOG

PROJECT : Millersburg Transition Parkway, Millersburg, OR LOCATION : (44.7 N, -123.1 E)

ELEVATION : 212.0 ft DRILLING CONTRACTOR : Western States Soil Conservation

DRILLING EQUIPMENT AND METHOD : Geoprobe 8150, Track-Mounted Drill, Sonic ORIENTATION : Vertical

WATER LEVELS : --- START : 1/4/23 12:00 END : 1/4/23 16:30 LOGGER : J.S. Nair

DEPTH BELOW EXISTING GRADE (ft)	INTERVAL (ft)	SAMPLE RECOVERY (ft)	#TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	SYMBOLIC LOG	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION
182.0	30.0 31.5	1.5	10-SS	10-15-24 (39)	**SILTY SAND (SM)** gray, moist, dense, fine to medium sand		Lab Results: MC : 27.0% GRAVEL : 0% SAND : 61% FINES : 39%
35	35.0						
177.0	36.5	1.3	11-SS	16-41-44 (85)	**POORLY GRADED SAND with GRAVEL (SP)** gray, moist, very dense, fine to medium sand		
40	40.0						
172.0	41.5	1.3	12-SS	16-14-22 (36)	**POORLY GRADED SAND with GRAVEL (SP)** similar to above, except dense		
45	45.0						
167.0	46.5	1.3	13-SS	44-36-49 (85)	**SILTY SAND (SM)** gray, moist, very dense, fine to medium sand		Lab Results: MC : 21.7% GRAVEL : 0% SAND : 76% FINES : 24%
50	50.0						
162.0	51.5	1.2	14-SS	13-23-31 (54)	**POORLY GRADED SAND with GRAVEL (SP)** gray, moist, very dense, fine to medium sand		
55 157.0							
60							

Jacobs

PROJECT NUMBER:	BORING NUMBER:	
D3395316	B-5-23	SHEET 3 OF 3

SOIL BORING LOG

PROJECT : Millersburg Transition Parkway, Millersburg, OR — LOCATION : (44.7 N, -123.1 E)

ELEVATION : 212.0 ft — DRILLING CONTRACTOR : Western States Soil Conservation

DRILLING EQUIPMENT AND METHOD : Geoprobe 8150, Track-Mounted Drill, Sonic — ORIENTATION : Vertical

WATER LEVELS : --- — START : 1/4/23 12:00 — END : 1/4/23 16:30 — LOGGER : J.S. Nair

DEPTH BELOW EXISTING GRADE (ft)	INTERVAL (ft)	SAMPLE RECOVERY (ft)	#TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	SYMBOLIC LOG	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION
152.0	60.0 61.5	1.3	15-SS	18-31-49 (80)	**SILTY SAND (SM)** gray, moist, very dense, fine to medium sand		Lab Results: MC : 21.5% P200 : 22.0%
					Bottom of Boring at 61.5 ft bgs on 1/4/23 16:30		
65 147.0							
70 142.0							
75 137.0							
80 132.0							
85 127.0							
90							

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PROJECT NUMBER:	BORING NUMBER:	
D3395316	B-6-23	SHEET 1 OF 3

SOIL BORING LOG

PROJECT : Millersburg Transition Parkway, Millersburg, OR LOCATION : (44.7 N, -123.1 E)

ELEVATION : 211.0 ft DRILLING CONTRACTOR : Western States Soil Conservation

DRILLING EQUIPMENT AND METHOD : Geoprobe 8150, Track-Mounted Drill, Sonic ORIENTATION : Vertical

WATER LEVELS : --- START : 1/5/23 12:00 END : 1/5/23 15:00 LOGGER : J.S. Nair

DEPTH BELOW EXISTING GRADE (ft)	INTERVAL (ft)	SAMPLE RECOVERY (ft)	#TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	SYMBOLIC LOG	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION
211.0					**TOPSOIL/DUFF**		
	2.5						
	4.0	1.5	1-SS	2-4-3 (7)	**LEAN CLAY (CL)** brown, moist, firm, low to medium plasticity, trace fine sand		Lab Results: MC : 34.1% LL : 39 PI : 14
5	5.0						
206.0	6.5	1.5	2-SS	3-4-6 (10)	**LEAN CLAY (CL)** similar to above, except stiff		Lab Results: MC : 26.6% P200 : 57.6%
	7.5						
	9.0	1.5	3-SS	0-2-2 (4)	**LEAN CLAY (CL)** similar to above, except firm		Lab Results: MC : 33.7% LL : 34 PI : 13
10	10.0						
201.0	12.0		4-ST				
	12.5						
	14.0	1.5	5-SS	3-3-4 (7)	**LEAN CLAY (CL)** similar to above, except stiff		
15	15.0						
196.0	16.5	1.5	6-SS	3-4-5 (9)	**LEAN CLAY (CL)** gray, moist, firm, medium plasticity, trace fine sand		Lab Results: MC : 34.7% LL : 53 PI : 30
	17.5						
	19.0	0.0	7-SS	2-3-3 (6)	**No Recovery**		
20	20.0						
191.0	21.5	1.0	8-SS	2-14-27 (41)	**SANDY CLAY with GRAVEL (CL)** gray, moist, firm, medium plasticity, fine to medium sand, fine gravel		
25	25.0						
186.0	26.5	1.0	9-SS	27-31-29 (60)	**POORLY GRADED SAND with SILT and GRAVEL (SP-SM)** gray, moist, very dense, fine to medium sand, fine gravel, low to medium plasticity		Lab Results: MC : 13.2% GRAVEL : 41% SAND : 48% FINES : 11%
30							

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PROJECT NUMBER:	BORING NUMBER:	
D3395316	B-6-23	SHEET 2 OF 3

SOIL BORING LOG

PROJECT : Millersburg Transition Parkway, Millersburg, OR LOCATION : (44.7 N, -123.1 E)

ELEVATION : 211.0 ft DRILLING CONTRACTOR : Western States Soil Conservation

DRILLING EQUIPMENT AND METHOD : Geoprobe 8150, Track-Mounted Drill, Sonic ORIENTATION : Vertical

WATER LEVELS : --- START : 1/5/23 12:00 END : 1/5/23 15:00 LOGGER : J.S. Nair

DEPTH BELOW EXISTING GRADE (ft)	INTERVAL (ft)	SAMPLE RECOVERY (ft)	#TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	SYMBOLIC LOG	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION
181.0	30.0 31.5	1.2	10-SS	17-34-28 (62)	**POORLY GRADED SAND with GRAVEL (SP)** similar to above		
35	35.0						
176.0	36.5	1.5	11-SS	10-18-50/5 (68/11")	**SILTY SAND (SM)** gray, moist, very dense, fine to medium sand, low to medium plasticity		Lab Results: MC : 27.8% GRAVEL : 0% SAND : 84% FINES : 16%
40	40.0						
171.0	41.5	1.2	12-SS	23-10-23 (33)	**POORLY GRADED SAND with GRAVEL (SP)** gray, moist, dense, fine to medium sand, fine gravel, low to medium plasticity		
45	45.0						
166.0	46.5	0.4	13-SS	50/5 (50/5")	**SILTY SAND (SM)** gray, moist, very dense, fine to medium sand, low to medium plasticity		Lab Results: MC : 25.1% GRAVEL : 0% SAND : 71% FINES : 29%
50	50.0						
161.0	51.5	0.3	14-SS	50/3 (50/3")	**POORLY GRADED SAND with GRAVEL (SP)** gray, moist, very dense, fine to medium sand, fine gravel, low to medium plasticity		
55 156.0							
60							

Jacobs

PROJECT NUMBER:	BORING NUMBER:	
D3395316	B-6-23	SHEET 3 OF 3

SOIL BORING LOG

PROJECT : Millersburg Transition Parkway, Millersburg, OR LOCATION : (44.7 N, -123.1 E)

ELEVATION : 211.0 ft DRILLING CONTRACTOR : Western States Soil Conservation

DRILLING EQUIPMENT AND METHOD : Geoprobe 8150, Track-Mounted Drill, Sonic ORIENTATION : Vertical

WATER LEVELS : --- START : 1/5/23 12:00 END : 1/5/23 15:00 LOGGER : J.S. Nair

DEPTH BELOW EXISTING GRADE (ft)	INTERVAL (ft)	SAMPLE RECOVERY (ft)	#TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	SYMBOLIC LOG	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION
151.0	60.0 61.5	0.2	15-SS	50/2 (50/2")	**SILTY SAND (SM)** gray, moist, very dense, fine to medium sand, low to medium plasticity		Lab Results: MC : 21.4% GRAVEL : 0% SAND : 71% FINES : 29%
					Bottom of Boring at 61.5 ft bgs on 1/5/23 15:00		
65 146.0							
70 141.0							
75 136.0							
80 131.0							
85 126.0							
90							

Jacobs

PROJECT NUMBER:	TEST PIT NUMBER:
D3395316	TP-1-23 SHEET 1 OF 1

TEST PIT LOG

PROJECT: Millersburg Transition Parkway, Millersburg, OR
LOCATION: Millersburg, OR [Lat/Long: 44.6808, -123.0753]
ELEVATION: 233.0 ft
CONTRACTOR: Western States Soil Conservation
EXCAVATION EQUIPMENT: DEERE 50G
DATE EXCAVATED: 1/6/2023
WATER LEVELS: None
APPROX. DIMENSIONS:
LOGGER: J.S. Nair

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL (ft)	SAMPLE #TYPE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	GRAPHIC LOG	COMMENT: DIFFICULTY IN EXCAVATION, RUNNING GRAVEL CONDITION, COLLAPSE OF WALLS, SAND HEAVE, DEBRIS ENCOUNTERED, WATER SEEPAGE GRADATIONAL CONTACTS, TEST, INSTRUMENTATION
			TOPSOIL/DUFF		11:00 started excavation
			SILT (ML) brown, moist, low to medium plasticity, trace fine sand		
	4.0	1-GRAB			
5					
10			Bottom of Boring at 10.0 ft bgs on		11:30 finished excavation
15					

Jacobs

PROJECT NUMBER:	TEST PIT NUMBER:
D3395316	TP-2-23 SHEET 1 OF 1

TEST PIT LOG

PROJECT: Millersburg Transition Parkway, Millersburg, OR
LOCATION: Millersburg, OR [Lat/Long: 44.6808, -123.0739]
ELEVATION: 235.0 ft
CONTRACTOR: Western States Soil Conservation
EXCAVATION EQUIPMENT: DEERE 50G
DATE EXCAVATED: 1/6/2023
WATER LEVELS: None
APPROX. DIMENSIONS:
LOGGER: J.S. Nair

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL (ft)	SAMPLE #TYPE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	GRAPHIC LOG	COMMENT: DIFFICULTY IN EXCAVATION, RUNNING GRAVEL CONDITION, COLLAPSE OF WALLS, SAND HEAVE, DEBRIS ENCOUNTERED, WATER SEEPAGE GRADATIONAL CONTACTS, TEST, INSTRUMENTATION
			TOPSOIL/DUFF		10:30 started excavation
			SILT (ML) brown, moist, low to medium plasticity, trace fine sand		
	4.0	1-GRAB			
5					
10			Bottom of Boring at 10.0 ft bgs on		11:00 finished excavation
15					

Jacobs

PROJECT NUMBER:	TEST PIT NUMBER:
D3395316	TP-3-23 SHEET 1 OF 1

TEST PIT LOG

PROJECT: Millersburg Transition Parkway, Millersburg, OR
LOCATION: Millersburg, OR [Lat/Long: 44.6808, -123.0670]
ELEVATION: 229.0 ft
CONTRACTOR: Western States Soil Conservation
EXCAVATION EQUIPMENT: DEERE 50G
DATE EXCAVATED: 1/6/2023
WATER LEVELS: None
APPROX. DIMENSIONS:
LOGGER: J.S. Nair

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL (ft)	SAMPLE #TYPE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	GRAPHIC LOG	COMMENT: DIFFICULTY IN EXCAVATION, RUNNING GRAVEL CONDITION, COLLAPSE OF WALLS, SAND HEAVE, DEBRIS ENCOUNTERED, WATER SEEPAGE GRADATIONAL CONTACTS, TEST, INSTRUMENTATION
			TOPSOIL/DUFF		10:00 started excavation
			SILT (ML) brown, moist, low to medium plasticity, trace fine sand		
	4.0	1-GRAB			
5					
			SILT with GRAVEL (ML) brown, moist, low to medium plasticity, fine to coarse gravel, trace fine sand		
10					10:30 finished excavation
			Bottom of Boring at 10.0 ft bgs on		
15					

Jacobs

PROJECT NUMBER:	TEST PIT NUMBER:
D3395316	TP-4-23 SHEET 1 OF 1

TEST PIT LOG

PROJECT: Millersburg Transition Parkway, Millersburg, OR
LOCATION: Millersburg, OR [Lat/Long: 44.6808, -123.0656]
ELEVATION: 225.0 ft
CONTRACTOR: Western States Soil Conservation
EXCAVATION EQUIPMENT: DEERE 50G
DATE EXCAVATED: 1/6/2023
WATER LEVELS: None
APPROX. DIMENSIONS:
LOGGER: J.S. Nair

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL (ft)	SAMPLE #TYPE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	GRAPHIC LOG	COMMENT: DIFFICULTY IN EXCAVATION, RUNNING GRAVEL CONDITION, COLLAPSE OF WALLS, SAND HEAVE, DEBRIS ENCOUNTERED, WATER SEEPAGE GRADATIONAL CONTACTS, TEST, INSTRUMENTATION
			TOPSOIL/DUFF		09:30 started excavation
			SILT (ML) brown, moist, low to medium plasticity, trace fine sand		
	4.0	1-GRAB			
5					
10			Bottom of Boring at 10.0 ft bgs on		10:00 finished excavation
15					

Jacobs

PROJECT NUMBER:	TEST PIT NUMBER:
D3395316	TP-5-23 SHEET 1 OF 1

TEST PIT LOG

PROJECT: Millersburg Transition Parkway, Millersburg, OR
LOCATION: Millersburg, OR [Lat/Long: 44.6804, -123.0644]
ELEVATION: 224.0 ft
CONTRACTOR: Western States Soil Conservation
EXCAVATION EQUIPMENT: DEERE 50G
DATE EXCAVATED: 1/6/2023
WATER LEVELS: None
APPROX. DIMENSIONS:
LOGGER: J.S. Nair

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL (ft)	SAMPLE #TYPE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	GRAPHIC LOG	COMMENT: DIFFICULTY IN EXCAVATION, RUNNING GRAVEL CONDITION, COLLAPSE OF WALLS, SAND HEAVE, DEBRIS ENCOUNTERED, WATER SEEPAGE GRADATIONAL CONTACTS, TEST, INSTRUMENTATION
0			**TOPSOIL/DUFF**		09:00 started excavation
			SILT (ML) brown, moist, low to medium plasticity, trace fine sand		
	4.0	1-GRAB			
5					
10			Bottom of Boring at 10.0 ft bgs on		09:30 finished excavation
15					

Jacobs

PROJECT NUMBER:	TEST PIT NUMBER:
D3395316	TP-6-23 SHEET 1 OF 1

TEST PIT LOG

PROJECT: Millersburg Transition Parkway, Millersburg, OR
LOCATION: Millersburg, OR [Lat/Long: 44.6796, -123.0644]
ELEVATION: 225.0 ft
CONTRACTOR: Western States Soil Conservation
EXCAVATION EQUIPMENT: DEERE 50G
DATE EXCAVATED: 1/6/2023
WATER LEVELS: None
APPROX. DIMENSIONS:
LOGGER: J.S. Nair

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL (ft)	SAMPLE #TYPE	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	GRAPHIC LOG	COMMENT: DIFFICULTY IN EXCAVATION, RUNNING GRAVEL CONDITION, COLLAPSE OF WALLS, SAND HEAVE, DEBRIS ENCOUNTERED, WATER SEEPAGE GRADATIONAL CONTACTS, TEST, INSTRUMENTATION
			TOPSOIL/DUFF		08:30 started excavation
			SILT (ML) brown, moist, low to medium plasticity, trace fine sand		
5	5.0	1-GRAB			
10			Bottom of Boring at 10.0 ft bgs on		09:00 finished excavation
15					

Appendix B
Soil Laboratory Test Results

FEI TESTING & INSPECTION, INC.
Geotechnical & Construction Services

LETTER OF TRANSMITTAL

Date: February 6, 2023

Project No.: 2226031-600

Re: Millersburg Transition Pkwy.

To: Jacobs
1100 NE Circle Blvd. Suite 300
Corvallis, OR 97330

Attn: Jithin Nair

Enclosed are:

☐ Report ☐ Drawings ☑ Test Results (12 Pages Total Incl. Cover)
☐ Copy of Letter ☐ Specifications
☐ Other

These are transmitted as checked below:

☑ For your use ☐ For your review/approval
☑ As requested ☐ For your files

Remarks: Requested laboratory testing results attached. Please call if you have any questions.

Date Sampled: unknown
Location Tested: Corvallis Laboratory
Sample No.: 8819

Copy to:

Signature:

Rachel Ray

Rachel Ray
President

FEI TESTING & INSPECTION, INC.
Geotechnical & Construction Services

Percent Fines & Water Content Test (ASTM D 1140)

PROJECT NAME	***Millersburg Transition Pkwy.***	*PROJECT NUMBER*	***2226031-600***
		FEI SAMPLE NUMBER	***8819***
RECORDED BY	***RR***	*DATE*	***2/3/2023***
CLIENT	***Jacobs***	*CLIENT PROJECT NUMBER*	***D3395316***

WATER CONTENT DIR or AUX*	***DIR***	***DIR***	***DIR***	***DIR***	***DIR***	***DIR***	***DIR***
SAMPLE DESIGNATION	**B-1-23, 1-SS**	**B-2-23, 2-SS**	**B-3-23, 3-SS**	**B-4-23, 3-SS**	**B-5-23, 2-SS**	**B-5-23, 4-SS**	**B-5-23, 15-SS**
SAMPLE DEPTH	**2.5'**	**5.0'**	**10.0'**	**10.0'**	**5.0'**	**10.0'**	**60.0'**
Pan Number	2	31	18	30	12	55	36
Wt. of Wet Soil + Pan (g)	339.46	375.00	353.82	306.56	358.26	325.43	478.70
Wt. of Dry Soil + Pan (g)	276.75	301.58	300.69	253.11	290.78	263.40	408.18
Wt. of Water (g)	62.71	73.42	53.13	53.45	67.48	62.03	70.52
Wt. of Pan (g)	76.35	80.20	69.98	80.85	69.57	81.33	79.75
Wt. of Dry Soil (g)	200.40	221.38	230.71	172.26	221.21	182.07	328.43
Water Content (%)	**31.3%**	**33.2%**	**23.0%**	**31.0%**	**30.5%**	**34.1%**	**21.5%**

TEST SAMPLE DATA							
TEST METHOD A or B	**B**	**B**	**B**	**B**	**B**	**B**	**B**
Length of Time Sample Soaked (hrs	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Pan Number	2	31	18	30	12	55	36
Wet Wt. + Pan (g)	339.46	375.00	353.82	306.56	358.26	325.43	478.70
Wet Wt. (g)	263.11	294.80	283.84	225.71	288.69	244.10	398.95
Wt. of Pan (g)	76.35	80.20	69.98	80.85	69.57	81.33	79.75
(A) Dry Soil (g) (Total Sample)	200.40	221.38	230.71	172.26	221.21	182.07	328.43

AFTER WASHING							
Pan Number	2	31	18	30	12	55	36
Dry Wt. + Pan (g)	130.13	107.01	150.81	124.70	166.50	131.11	336.01
Wt. of Pan (g)	76.35	80.20	69.98	80.85	69.57	81.33	79.75
(B) Wt. of Dry Soil	53.78	26.81	80.83	43.85	96.93	49.78	256.26
(C) Total Loss (g) (No. 200) (C=A-B)	146.62	194.57	149.88	128.41	124.28	132.29	72.17
% Fines (C/A)	**73.2%**	**87.9%**	**65.0%**	**74.5%**	**56.2%**	**72.7%**	**22.0%**

*DIR=Dry mass was determined directly by drying the test specimen

*AUX=Dry mass was determined using an auxiliary water content specimen

Equipment Used

Oven ID #	**6060**
Scale ID #	**6067**
Sieve ID #	**LS30B**

Reviewed By Rachel Ray

FEI TESTING & INSPECTION, INC.
Geotechnical & Construction Services

Percent Fines & Water Content Test (ASTM D 1140)

PROJECT NAME	***Millersburg Transition Pkwy.***	*PROJECT NUMBER*	***2226031-600***
		FEI SAMPLE NUMBER	***8819***
RECORDED BY	***RR***	*DATE*	***2/3/2023***
CLIENT	***Jacobs***	*CLIENT PROJECT NUMBER*	***D3395316***

WATER CONTENT DIR or AUX*	***DIR***						
SAMPLE DESIGNATION	**B-6-23, 2-SS**						
SAMPLE DEPTH	**5.0'**						
Pan Number	61						
Wt. of Wet Soil + Pan (g)	364.79						
Wt. of Dry Soil + Pan (g)	304.80						
Wt. of Water (g)	59.99						
Wt. of Pan (g)	79.22						
Wt. of Dry Soil (g)	225.58						
Water Content (%)	**26.6%**						

TEST SAMPLE DATA							
TEST METHOD A or B	**B**						
Length of Time Sample Soaked (hrs	**4**						
Pan Number	61						
Wet Wt. + Pan (g)	364.79						
Wet Wt. (g)	285.57						
Wt. of Pan (g)	79.22						
(A) Dry Soil (g) (Total Sample)	225.58						

AFTER WASHING							
Pan Number	61						
Dry Wt. + Pan (g)	174.94						
Wt. of Pan (g)	79.22						
(B) Wt. of Dry Soil	95.72						
(C) Total Loss (g) (No. 200) (C=A-B)	129.86						
% Fines (C/A)	**57.6%**						

*DIR=Dry mass was determined directly by drying the test specimen

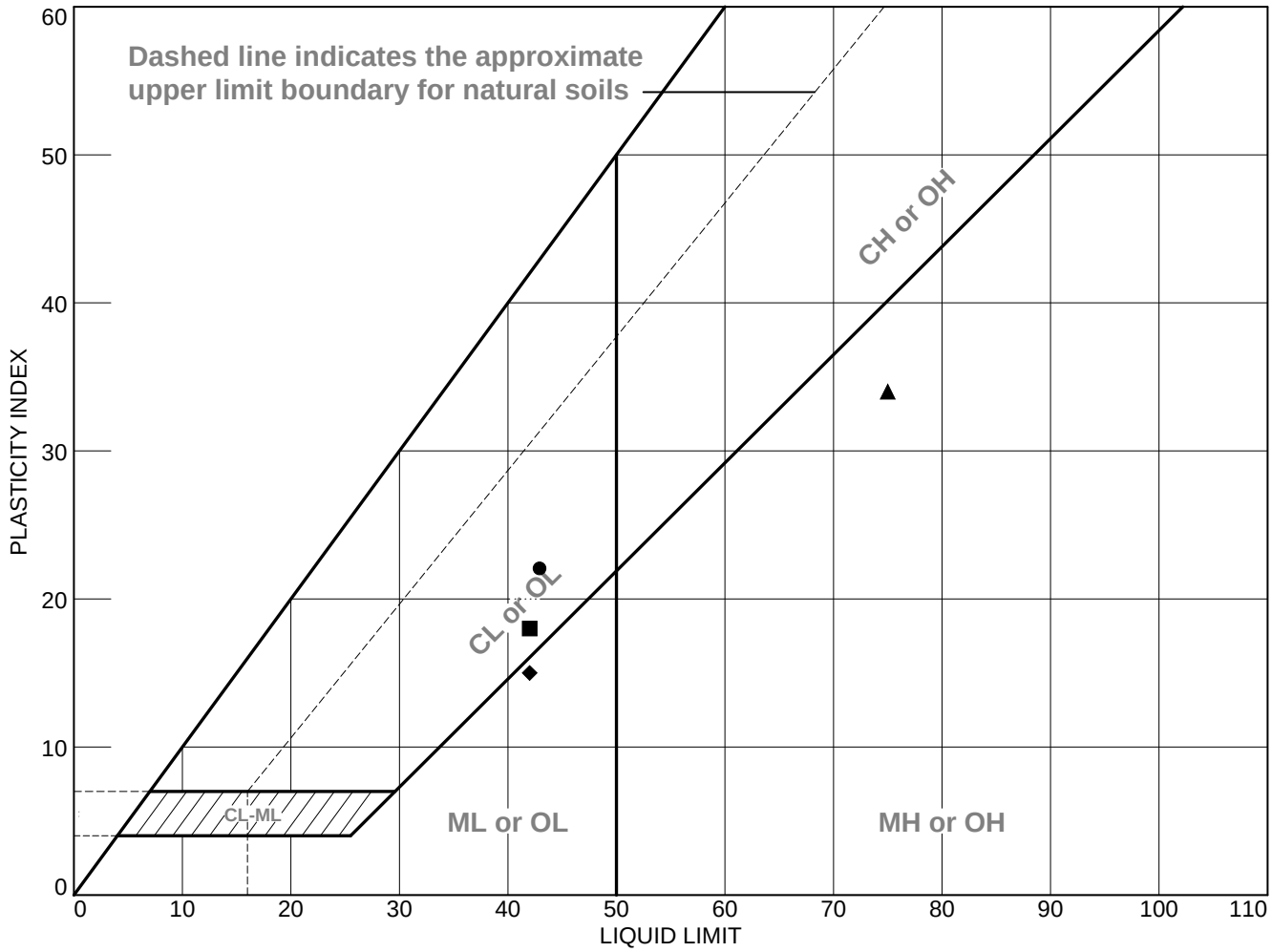
*AUX=Dry mass was determined using an auxiliary water content specimen

Equipment Used

Oven ID #	**6060**
Scale ID #	**6067**
Sieve ID #	**LS30B**

Reviewed By Rachel Ray

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	8819	B-1-22, 2-SS	5.0'	28.9	21	43	22	CL
■	8819	B-2-23, 1-SS	2.5'	30.6	24	42	18	CL
▲	8819	B-3-22, 4-SS	15.0'	51.8	41	75	34	MH
◆	8819	B-4-23, 2-SS	5.0'	35.1	27	42	15	ML

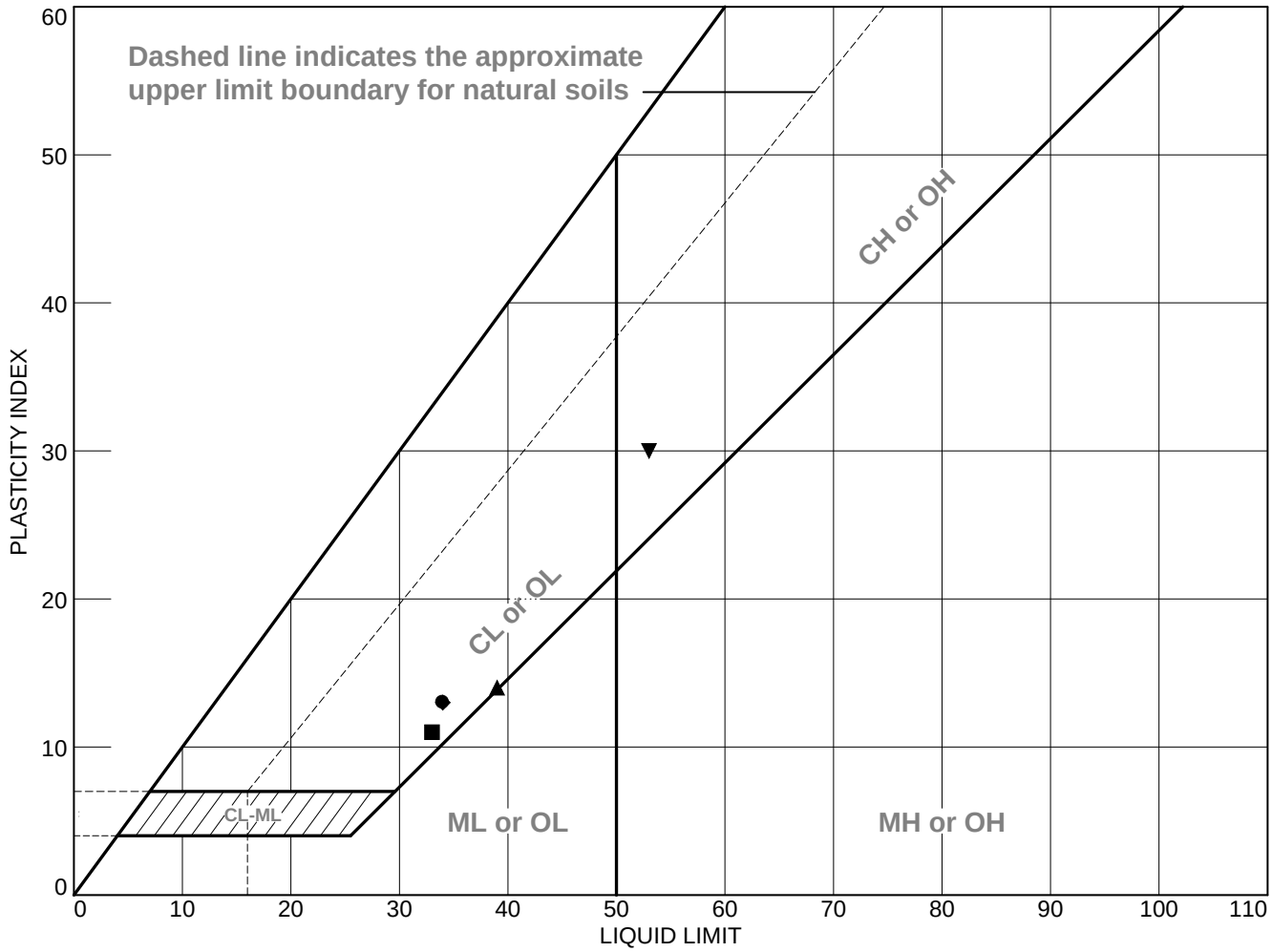
FEI Testing & Inspection, Inc.

Corvallis, OR

Client: Jacobs (Project No. D3395316)
Project: Millersburg Transition Pkwy.

Project No.: 2236031-600 **Figure**

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	8819	B-5-23, 3-SS	7.5'	35.5	21	34	13	CL
■	8819	B-5-23, 5-SS	12.5'	34.2	22	33	11	CL
▲	8819	B-6-22, 1-SS	2.5'	34.1	25	39	14	CL
◆	8819	B-6-22, 3-SS	7.5'	33.7	21	34	13	CL
▼	8819	B-6-22, 6-SS	15.0'	34.7	23	53	30	CH

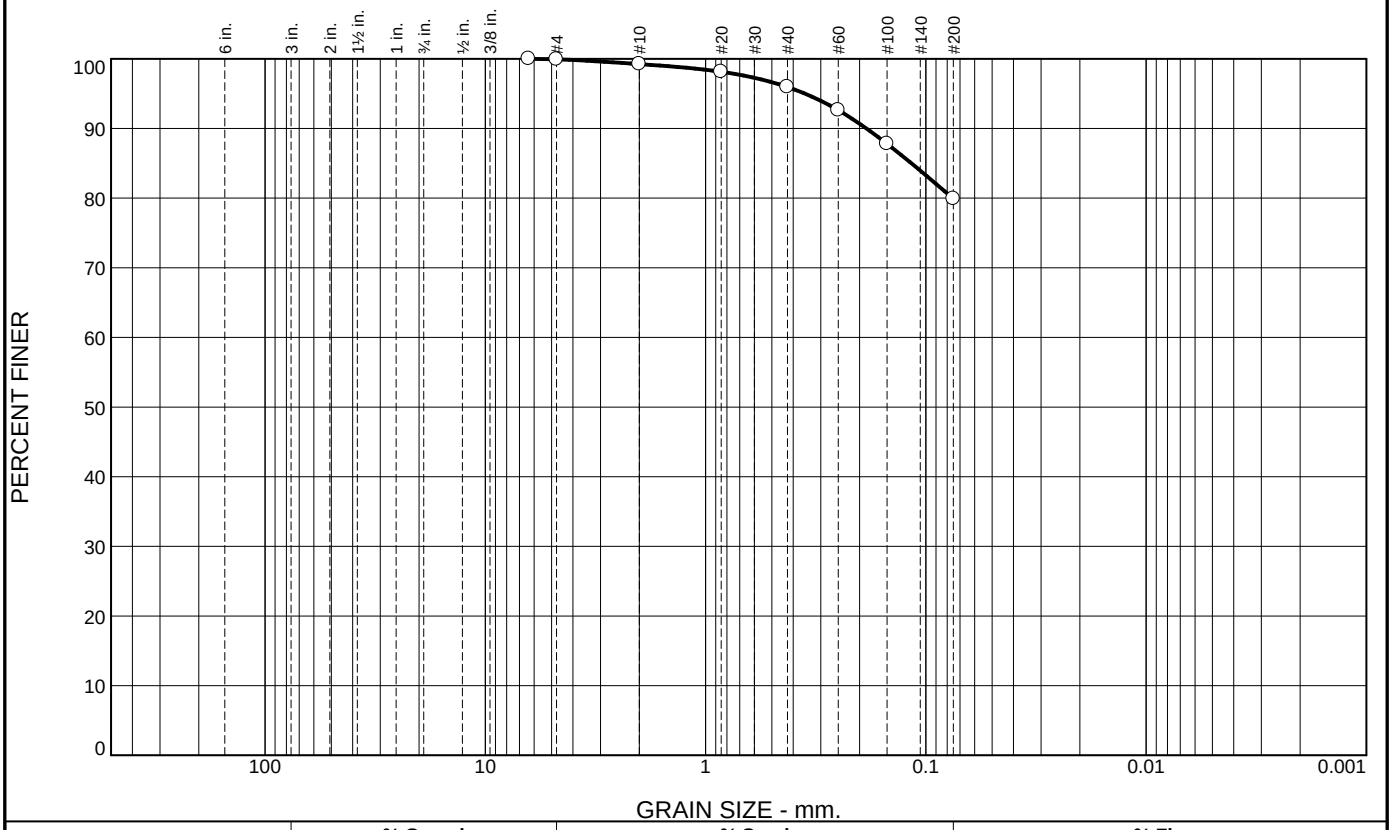
FEI Testing & Inspection, Inc.

Corvallis, OR

Client: Jacobs (Project No. D3395316)
Project: Millersburg Transition Pkwy.

Project No.: 2236031-600 **Figure**

Sieve Analysis ASTM C 136/C 117



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	1	3	16	80	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/4	100		
#4	100		
#10	99		
#20	98		
#40	96		
#60	93		
#100	88		
#200	80		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.1862 D_{85}= 0.1163 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Water Content: 31.6%

Source of Sample: 8819 **Depth:** 20.0'
Sample Number: B-5-23, 8-SS

Date: 02-03-2023

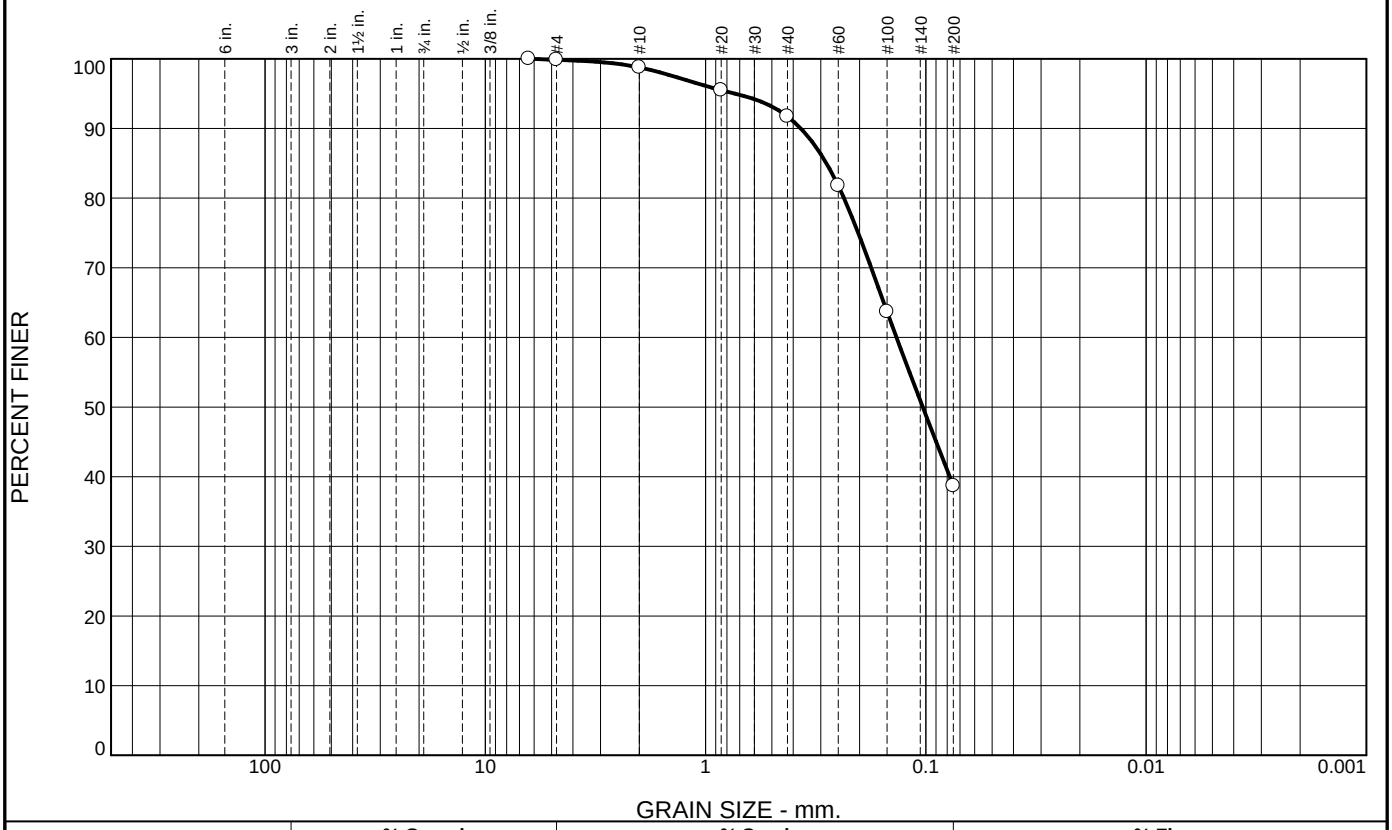
FEI Testing & Inspection, Inc.

Corvallis, OR

Client: Jacobs (Project No. D3395316)
Project: Millersburg Transition Pkwy.

Project No: 2236031-600 **Figure**

Sieve Analysis ASTM C 136/C 117



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	1	7	53	39	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1/4	100		
#4	100		
#10	99		
#20	95		
#40	92		
#60	82		
#100	64		
#200	39		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3697 D_{85}= 0.2828 D_{60}= 0.1360
D_{50}= 0.1033 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Water Content: 27.0%

Source of Sample: 8819 **Depth:** 30.0'
Sample Number: B-5-23, 10-SS

Date: 02-03-2023

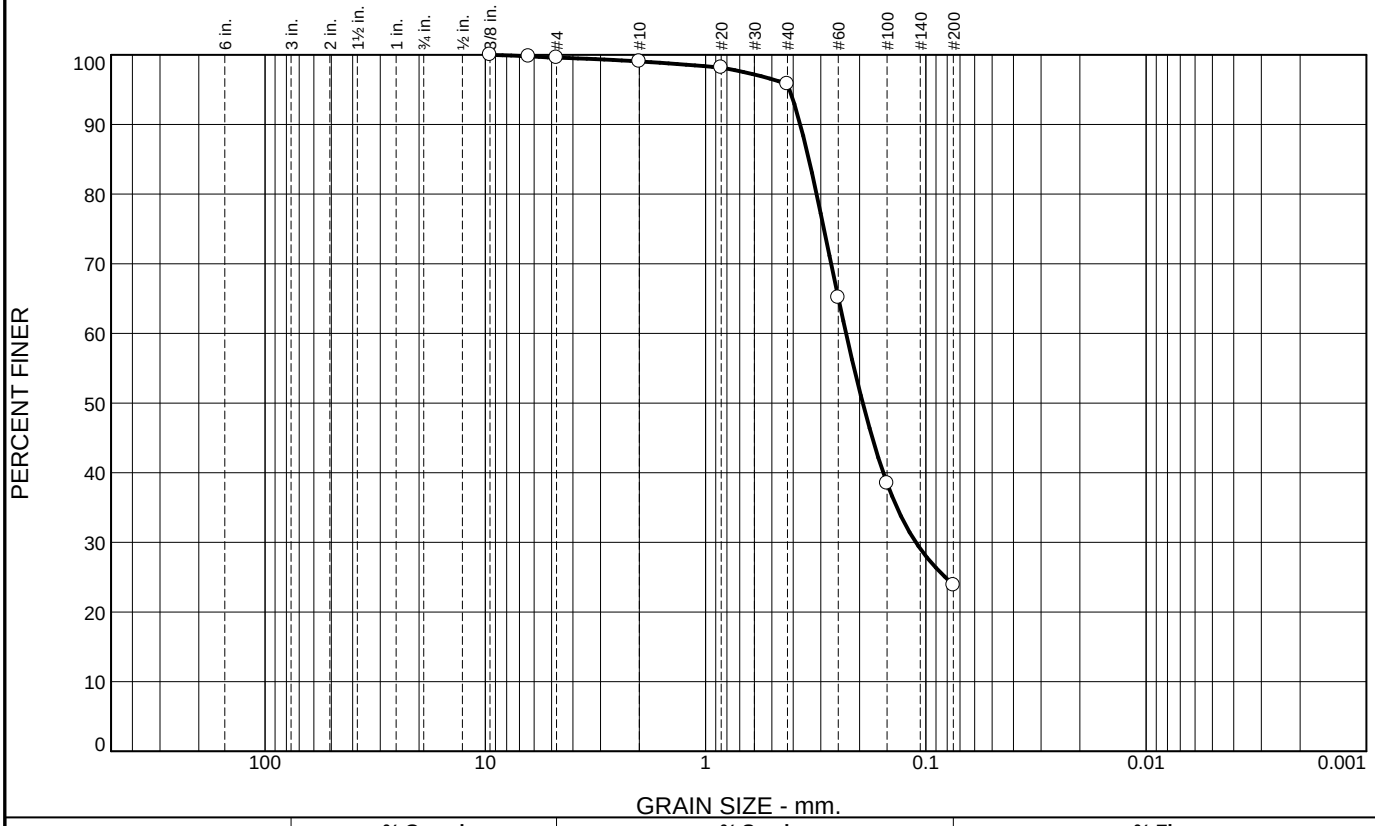
FEI Testing & Inspection, Inc.

Corvallis, OR

Client: Jacobs (Project No. D3395316)
Project: Millersburg Transition Pkwy.

Project No: 2236031-600 **Figure**

Sieve Analysis ASTM C 136/C 117



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	1	3	72	24	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/8	100		
1/4	100		
#4	100		
#10	99		
#20	98		
#40	96		
#60	65		
#100	38		
#200	24		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.3718 D_{85}= 0.3398 D_{60}= 0.2303
D_{50}= 0.1934 D_{30}= 0.1110 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Water Content: 21.7%

Source of Sample: 8819 **Depth:** 45.0'
Sample Number: B-5-23, 13-SS

Date: 02-03-2023

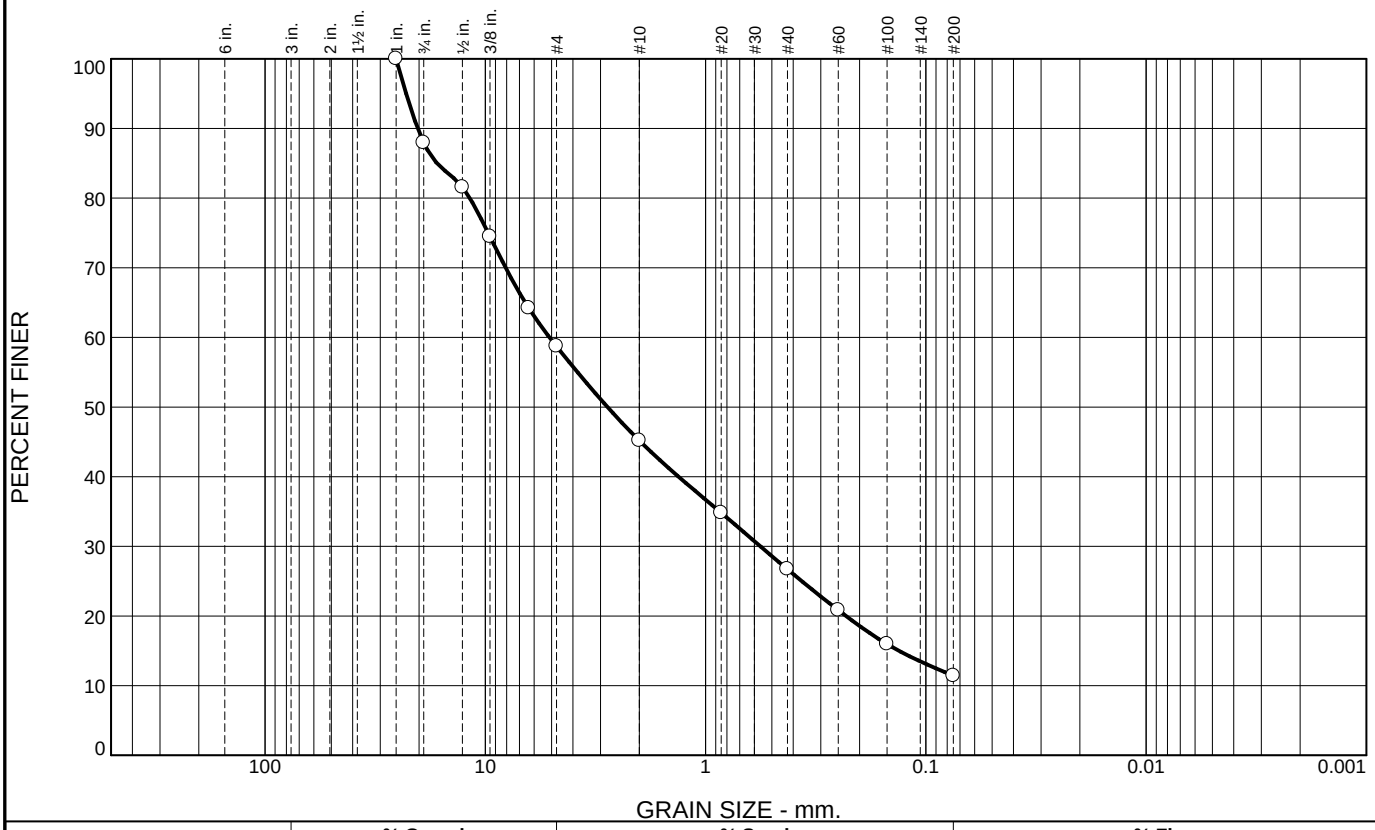
FEI Testing & Inspection, Inc.

Corvallis, OR

Client: Jacobs (Project No. D3395316)
Project: Millersburg Transition Pkwy.

Project No: 2236031-600 **Figure**

Sieve Analysis ASTM C 136/C 117



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	12	29	14	18	16	11	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100		
3/4	88		
1/2	82		
3/8	74		
1/4	64		
#4	59		
#10	45		
#20	35		
#40	27		
#60	21		
#100	16		
#200	11		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 20.2835 D_{85}= 16.5576 D_{60}= 5.1086
D_{50}= 2.7878 D_{30}= 0.5635 D_{15}= 0.1323
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Water Content: 13.2%

Source of Sample: 8819 **Depth:** 25.0'
Sample Number: B-6-23, 9-SS

Date: 02-03-2023

FEI Testing & Inspection, Inc.

Corvallis, OR

Client: Jacobs (Project No. D3395316)
Project: Millersburg Transition Pkwy.

Project No: 2236031-600 **Figure**

Sieve Analysis ASTM C 136/C 117

% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
			100				

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100		
#10	100		
#20	99		
#40	99		
#60	90		
#100	36		
#200	16		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Water Content: 27.8%

Source of Sample: 8819 **Depth:** 35.0'
Sample Number: B-6-23, 11-SS

Date: 02-03-2023

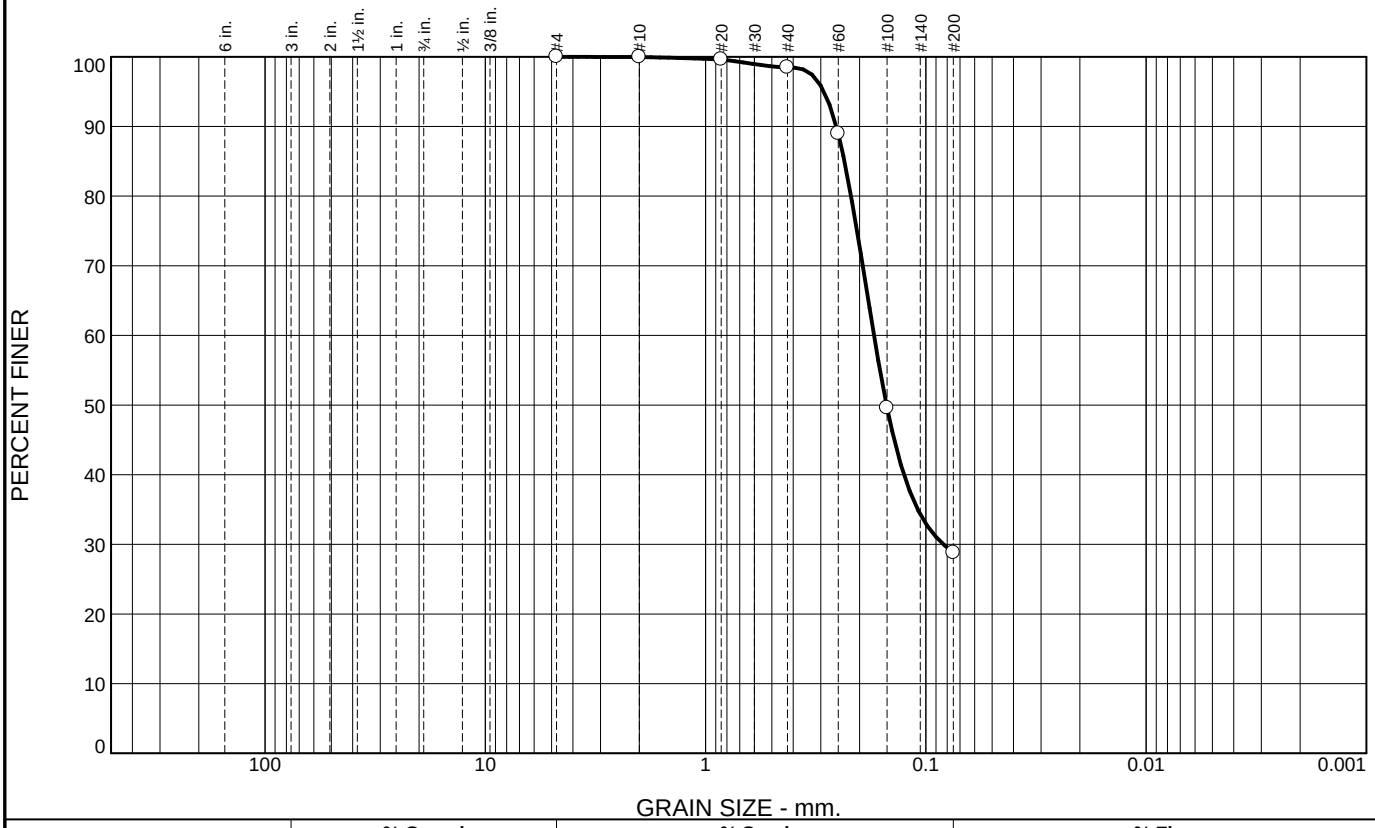
FEI Testing & Inspection, Inc.

Corvallis, OR

Client: Jacobs (Project No. D3395316)
Project: Millersburg Transition Pkwy.

Project No: 2236031-600 **Figure**

Sieve Analysis ASTM C 136/C 117



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
			100				

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100		
#10	100		
#20	100		
#40	98		
#60	89		
#100	50		
#200	29		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Water Content: 25.1%

Source of Sample: 8819 **Depth:** 45.0'
Sample Number: B-6-23, 13-SS

Date: 02-03-2023

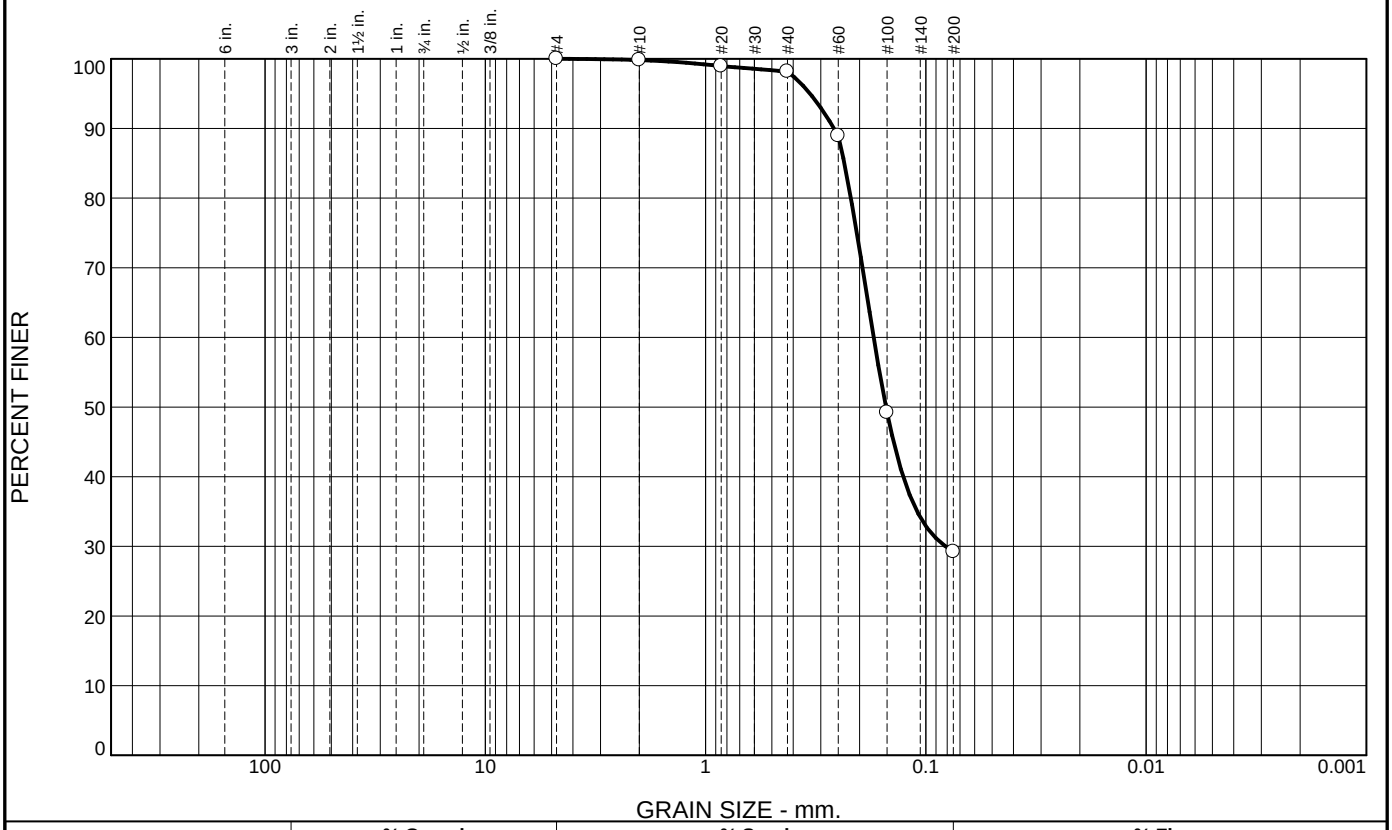
FEI Testing & Inspection, Inc.

Corvallis, OR

Client: Jacobs (Project No. D3395316)
Project: Millersburg Transition Pkwy.

Project No: 2236031-600 **Figure**

Sieve Analysis ASTM C 136/C 117



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
			100				

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100		
#10	100		
#20	99		
#40	98		
#60	89		
#100	49		
#200	29		

* (no specification provided)

Soil Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Water Content: 21.4%

Source of Sample: 8819 **Depth:** 60.0'
Sample Number: B-6-23, 15-SS

Date: 02-03-2023

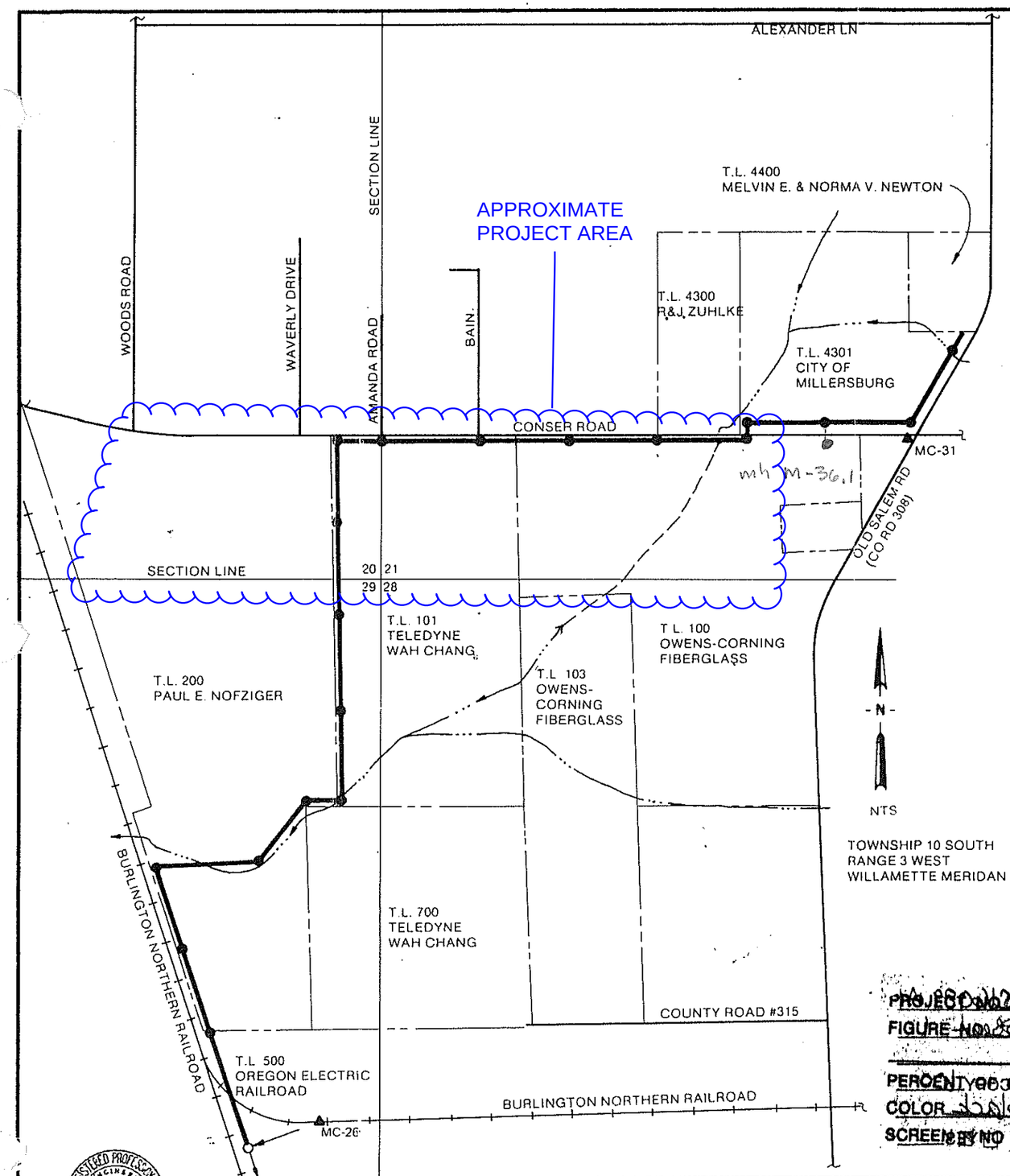
FEI Testing & Inspection, Inc.

Corvallis, OR

Client: Jacobs (Project No. D3395316)
Project: Millersburg Transition Pkwy.

Project No: 2236031-600 **Figure**

3. City of Millersburg Sanitary Sewer Collection System Contract 2



LEGEND

NEW

- MH "M"-6 — MANHOLE DESIGNATION
- GRAVITY SEWER WITH MANHOLE
- (D) — BACKFILL CLASSIFICATION
- 8"@0.004 — SIZE AND SLOPE OF PIPE (8" PIPE AT 0.0040 FT/FT)
- (IV) — ASTM C-76, CLASS III, IV OR V AS NOTED

EXISTING

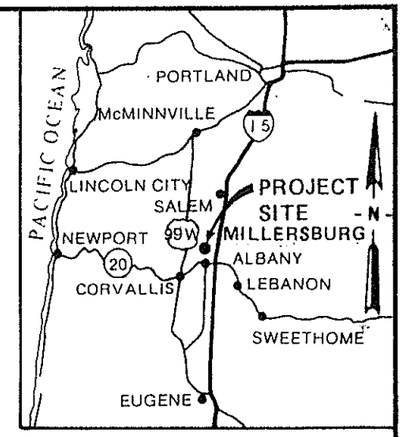
- SANITARY SEWER WITH MANHOLE
- STORM SEWER WITH CATCH BASIN AND MANHOLE
- 12" IRR — IRRIGATION PIPELINE
- 8"W — WATER PIPELINE WITH FIRE HYDRANT AND VALVE
- 2"G — GAS PIPELINE
- P — UNDERGROUND POWER CABLE
- T — UNDERGROUND TELEPHONE CABLE
- TV — UNDERGROUND TELEVISION CABLE
- 12" CMP — CULVERT (SIZE AND TYPE INDICATED)
- FENCE LINE
- UTILITY POLE WITH GUY ANCHOR

GENERAL

- RIGHT-OF-WAY AND/OR PROPERTY LINE
- T.L. 4400 — TAX LOT NUMBER
- EL — EASEMENT LINE
- 20P — WIDTH OF PERMANENT EASEMENT
- 30T — WIDTH OF TEMPORARY EASEMENT
- BM-1 — BENCH MARK LOCATION AND NUMBER
- DITCH SHOWING DIRECTION OF FLOW

ABBREVIATIONS LEGEND

EL	ELEVATION
FLL	FLOW LINE LEVEL
GND	GROUND
IE	INVERT ELEVATION
MH	MANHOLE



VICINITY MAP

BENCHMARK DESCRIPTION

TBM NO.	USC & GS ELEVATION	DESCRIPTION AND LOCATION
MC-26	218.02	NAIL AND SHINER IN CENTERLINE OF R.R. 2600 ± WEST OF COUNTY ROAD NUMBER 308, 70' ± EAST OF P.C. IN R.R. TRACKS, 45' EAST OF NORTH-SOUTH ROW OF TREES IN OLD FENCE LINE, APPROXIMATE STA 4+40 "MB" LINE.
MC-31	242.36	NAIL AND SHINER IN CENTER OF RAISED ISLAND OF OLD SALEM ROAD AND CONSER ROAD

INDEX TO DRAWINGS

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 19, 1971 — DALE A. CANNON

CH2M HILL

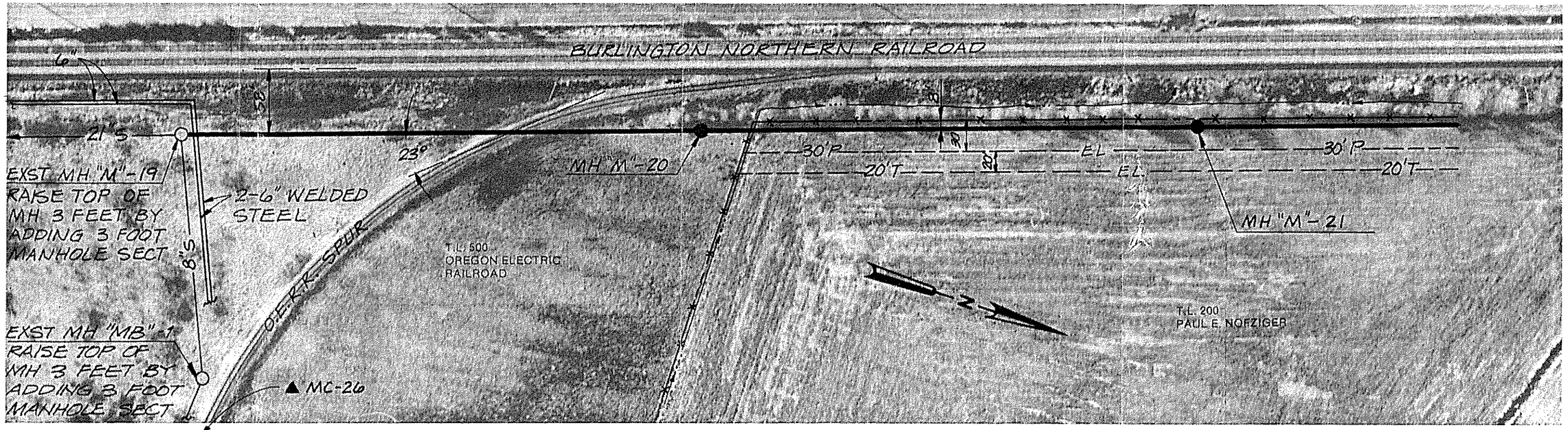
DES. CRS				
DR. CRS				
CHK. DAC				
APPD. DAC				
NO	DATE	REVISION	BY	APPD
	11/82	RECORD DWG	JLM	

SANITARY SEWAGE COLLECTION SYSTEM
CONTRACT NO. 2

CITY OF MILLERSBURG
LINN COUNTY, OREGON

VICINITY MAP; LOCATION MAP, BENCHMARK DESCRIPTIONS INDEX TO DRAWINGS AND LEGEND

SHEET 1 OF 12
DATE JUNE 82
DWG. NO. E16089 A1



REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1971
DALE A. CANNON

CH2M HILL

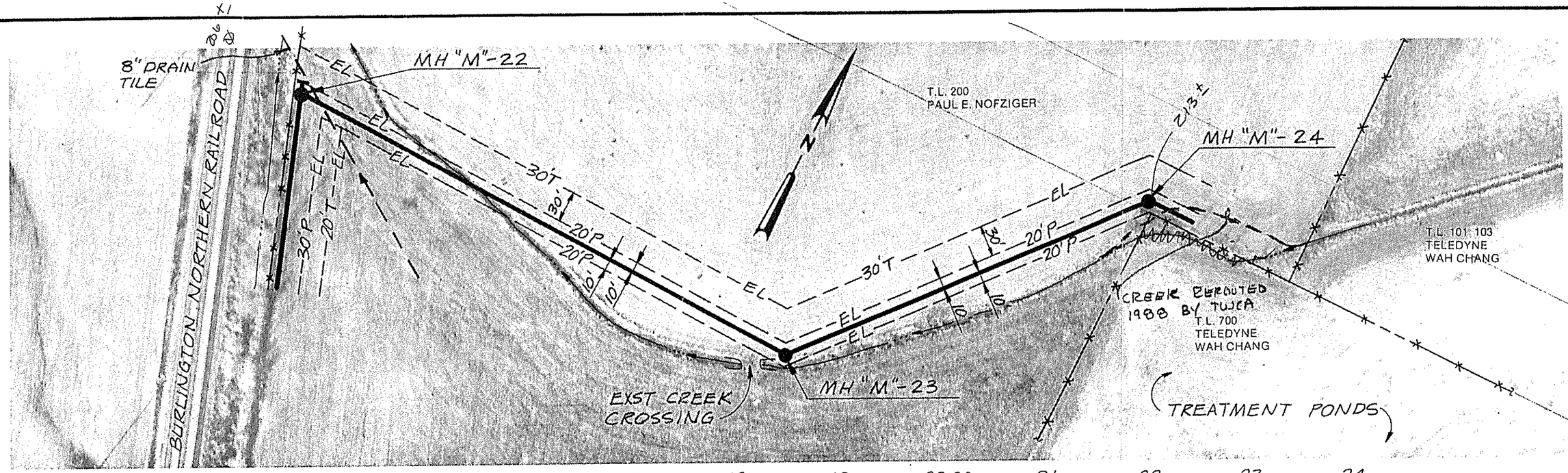
DES. CRS					
DR. CRS					
CHK. DAC					
APPD. DAC					
	NO.	DATE	REVISION	BY	APPD.
		11/82	RECORD DWG	JLM	

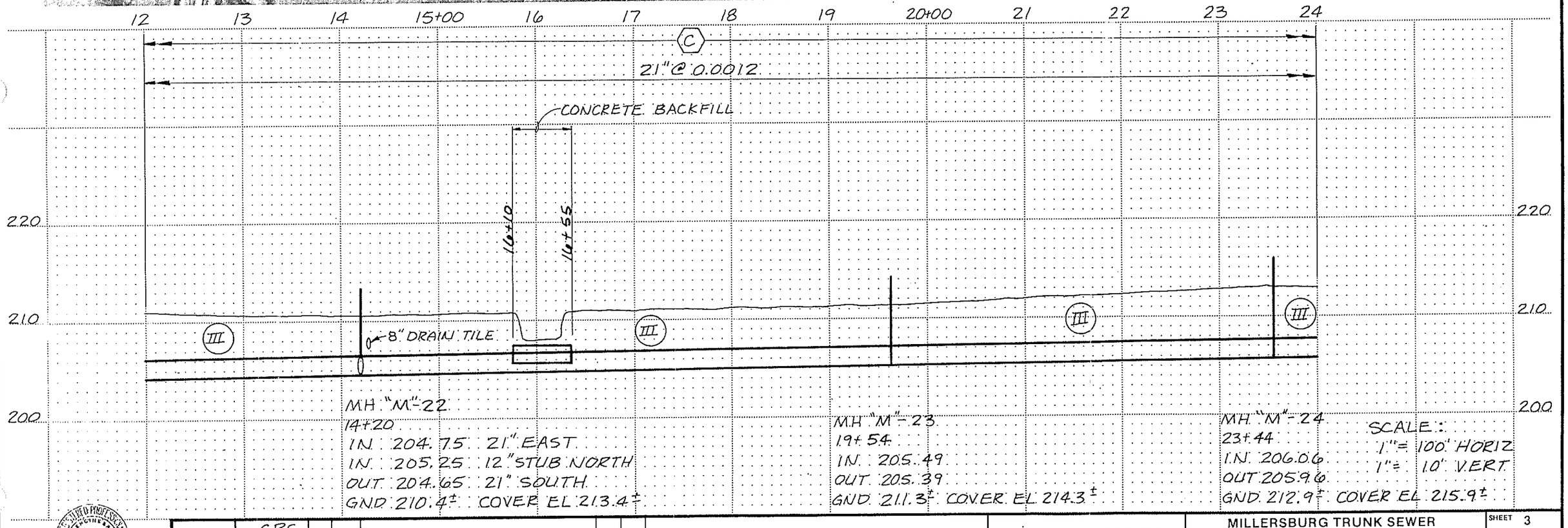
SANITARY SEWAGE COLLECTION SYSTEM
CONTRACT NO 2

CITY OF MILLERSBURG
LINN COUNTY, OREGON

MILLERSBURG TRUNK SEWER
"M" LINE
PLAN AND PROFILE
STA 0·00 TO STA 12·00

SHEET 2
OF 12
DATE JUNE 82
DWG. NO. E16089 A1





REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 16, 1971
DALE A. CANNON

CH2M HILL

DES.	DR.	CHK.	APPD.
CRS	CRS	DIC	DAC

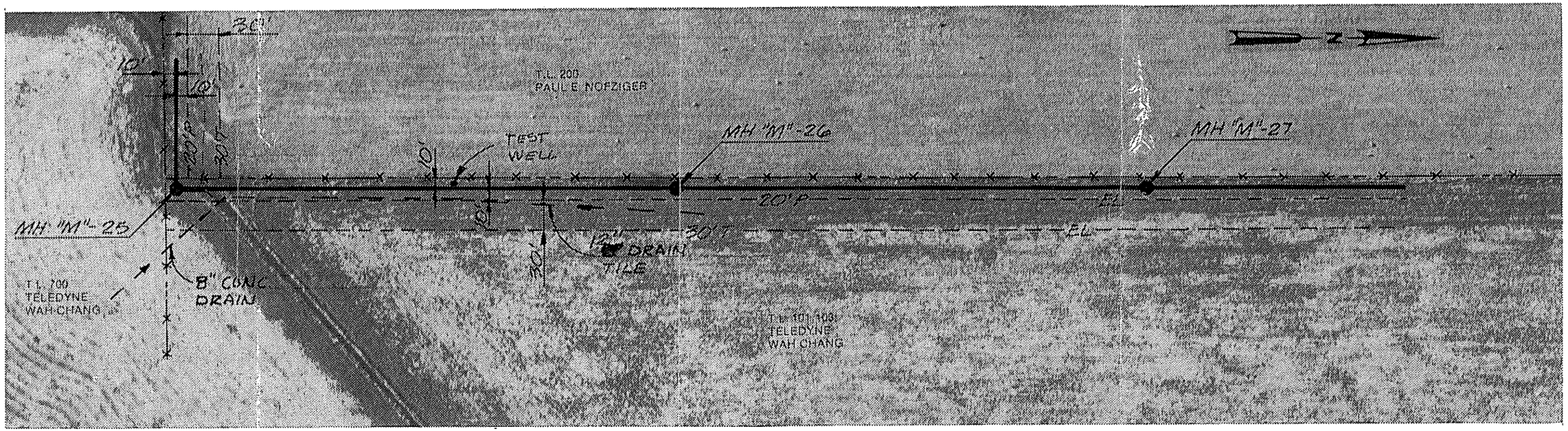
NO.	DATE	REVISION	BY	APPD.
	11/82	RECORD DWG	JLM	

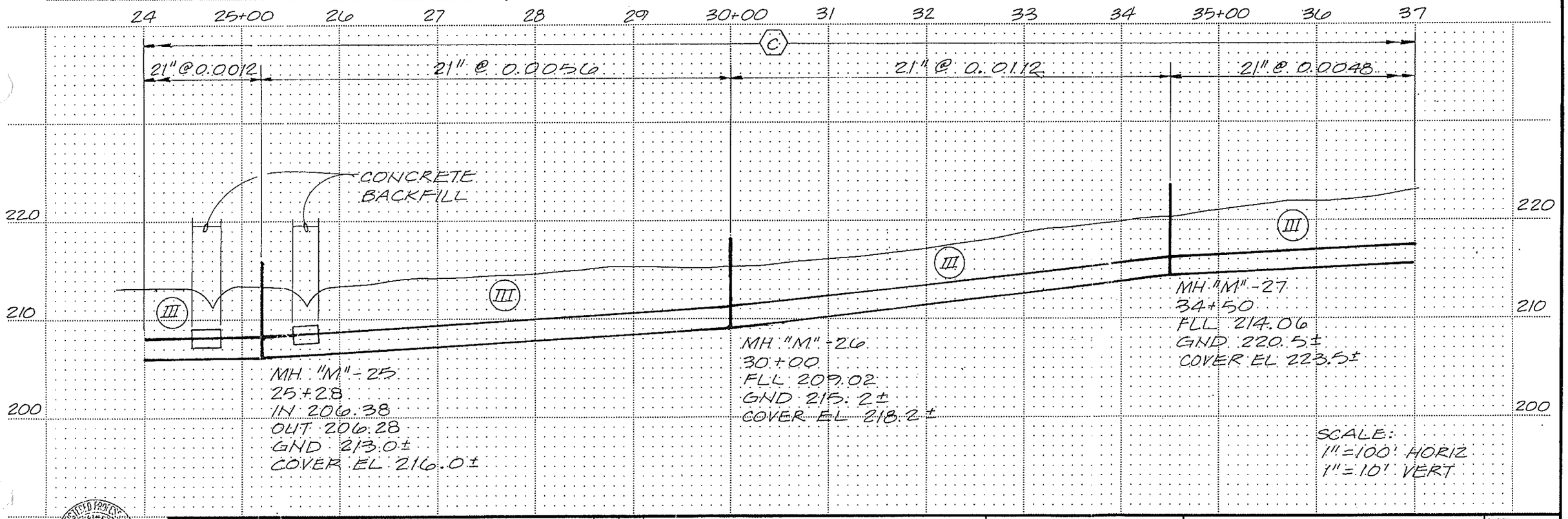
SANITARY SEWAGE COLLECTION SYSTEM
CONTRACT NO. 2

CITY OF MILLERSBURG
LINN COUNTY, OREGON

MILLERSBURG TRUNK SEWER
"M" LINE
PLAN AND PROFILE
STA 12+00 TO STA 24+00

SHEET 3 OF 12
DATE JUNE 82
DWG. NO. E16089 A1





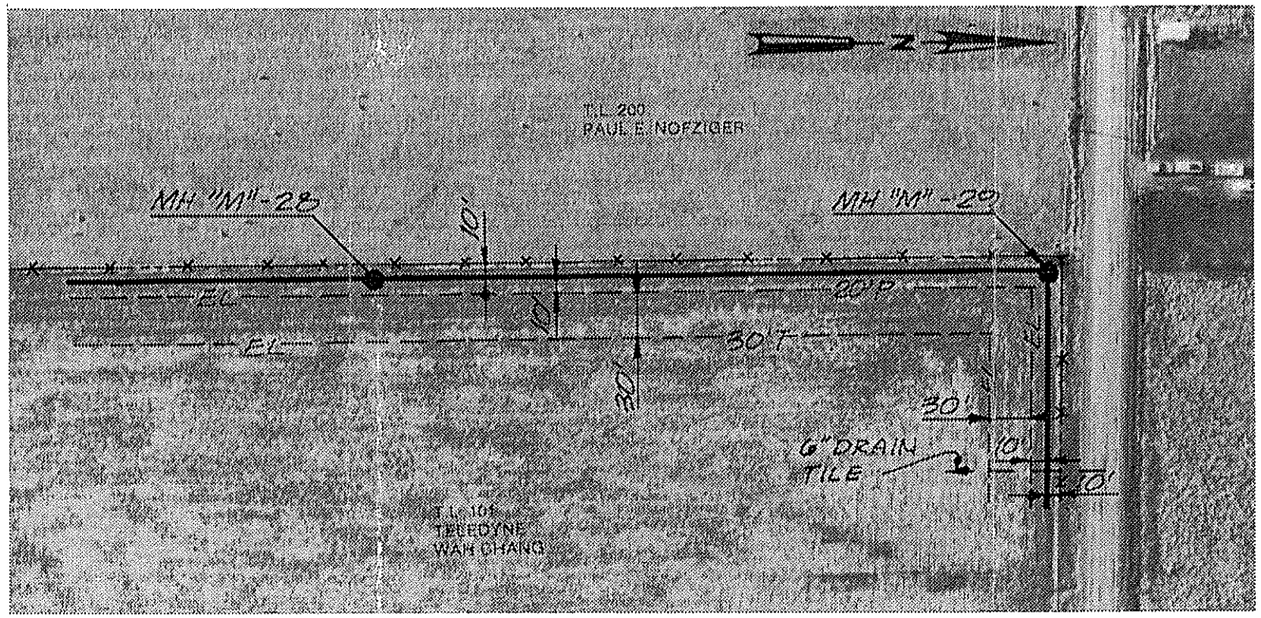
REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 19, 1971 — DALE A. CANNON

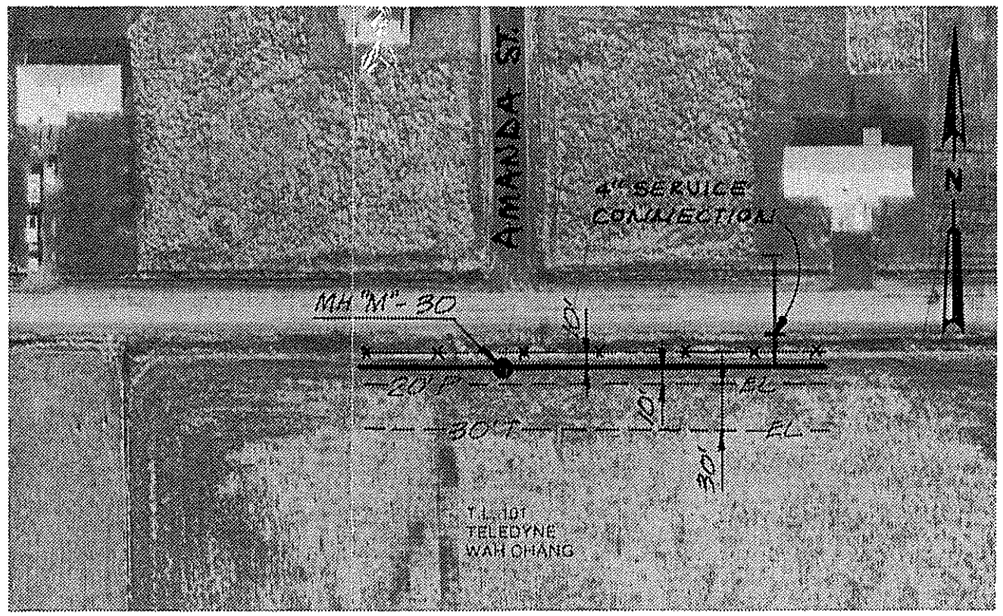
CH2M HILL	DES. TAB DR. GPS CHK. DAC APPD. DAC	NO.	11/82 DATE	RECORD DWG REVISION	JLM BY	APPD.	**SANITARY SEWAGE COLLECTION SYSTEM** CONTRACT NO. 2

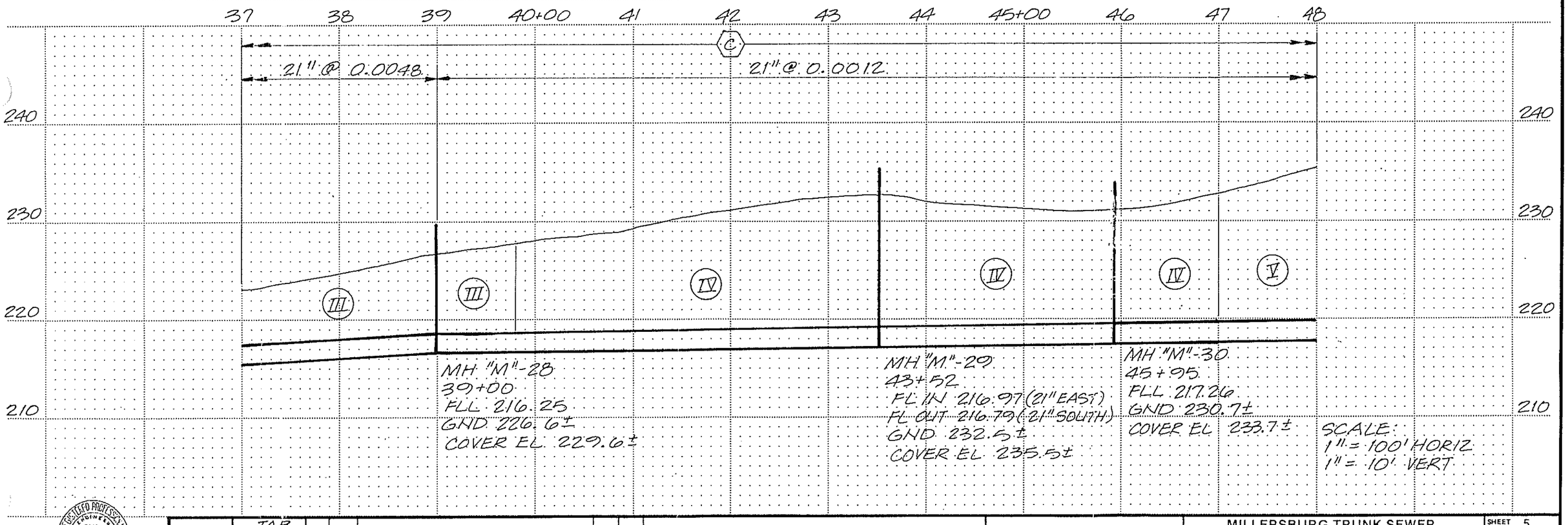
CITY OF MILLERSBURG
LINN COUNTY, OREGON

MILLERSBURG TRUNK SEWER
"M" LINE
PLAN AND PROFILE
STA 24+00 TO STA 37+00

SHEET 4 OF 12
DATE JUNE 82
DWG. NO. E16089 A1







REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 10, 1971
DALE A. CATHRO

CH2M HILL

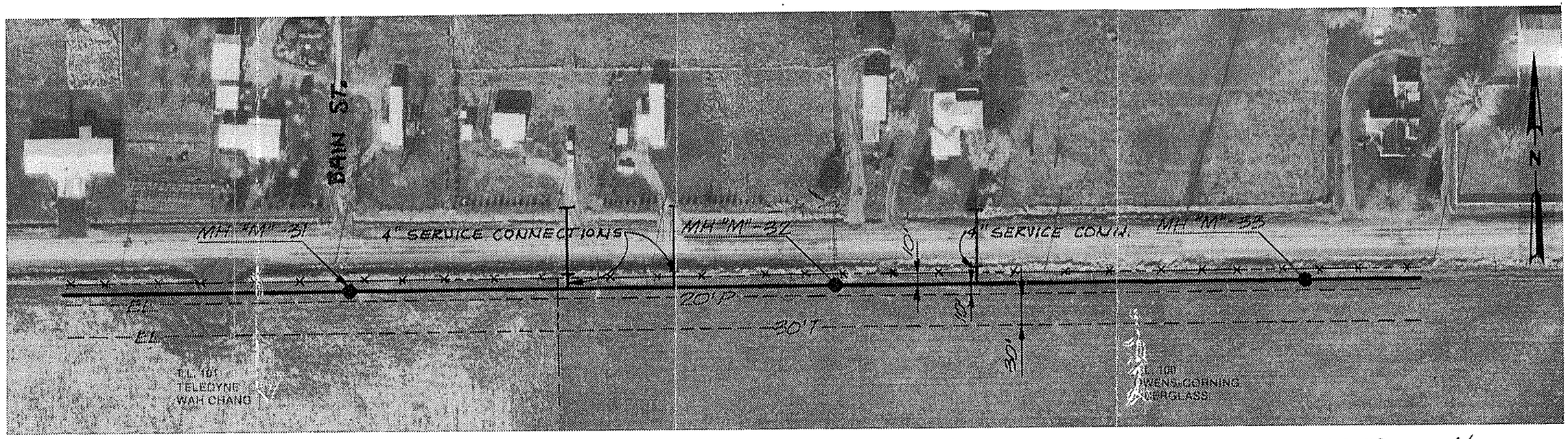
DES. TAB					
DR. GPG					
CHK. DAC					
APPD. DAC	NO.	DATE	REVISION	BY	APPD.
		11/82	RECORD DWG	JLM	

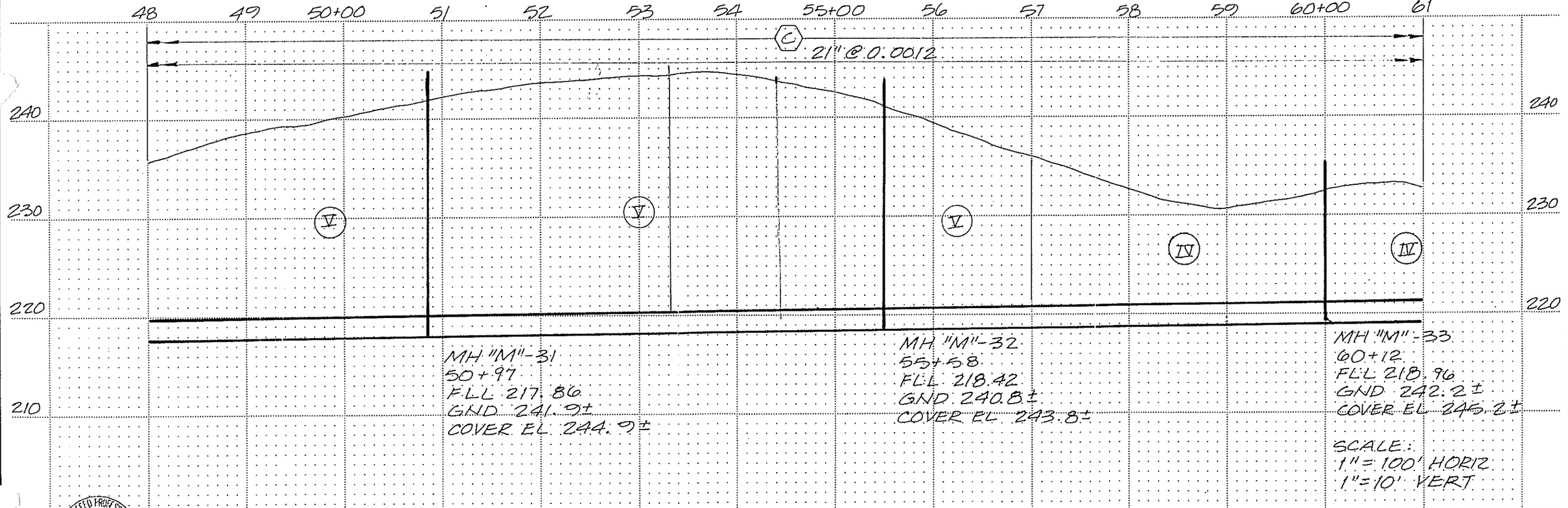
SANITARY SEWAGE COLLECTION SYSTEM
CONTRACT NO 2

CITY OF MILLERSBURG
LINN COUNTY, OREGON

MILLERSBURG TRUNK SEWER
"M" LINE
PLAN AND PROFILE
STA 37·00 TO STA 48·00

SHEET 5 OF 12
DATE JUNE 82
DWG. NO. E 16089 A1





REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 19, 1977
DALE A. CANNON

CH2M HILL

DES. TAB						
DR. GPG						
CHK. DAC						
APPD. DAC	NO.	DATE	REVISION	BY	APPD.	
		11/82	RECORD DWG	JLM		

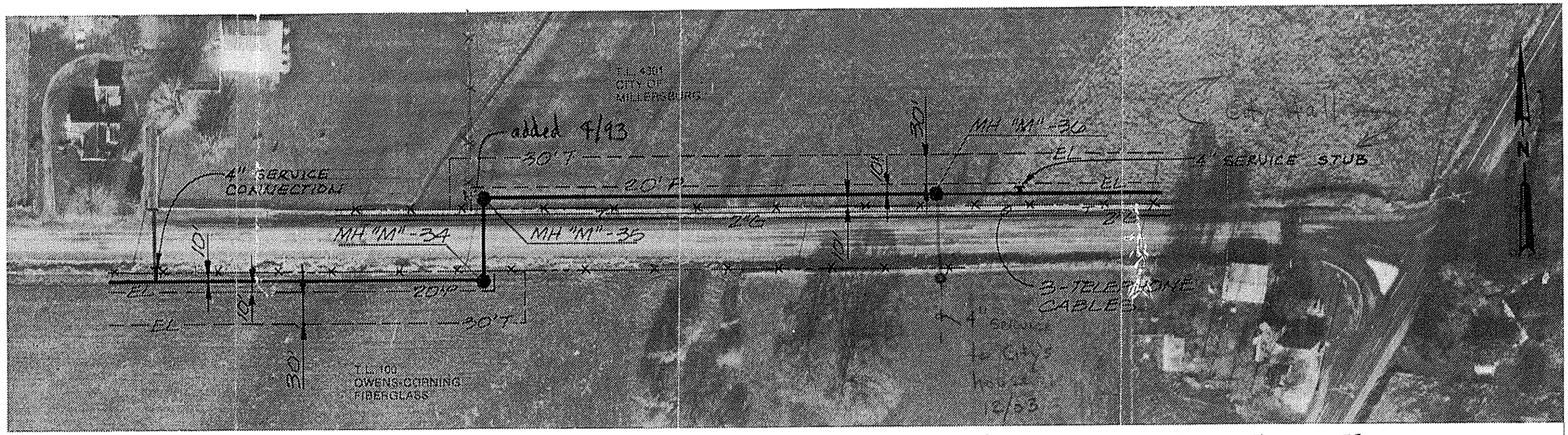
SANITARY SEWAGE COLLECTION SYSTEM
CONTRACT NO. 2

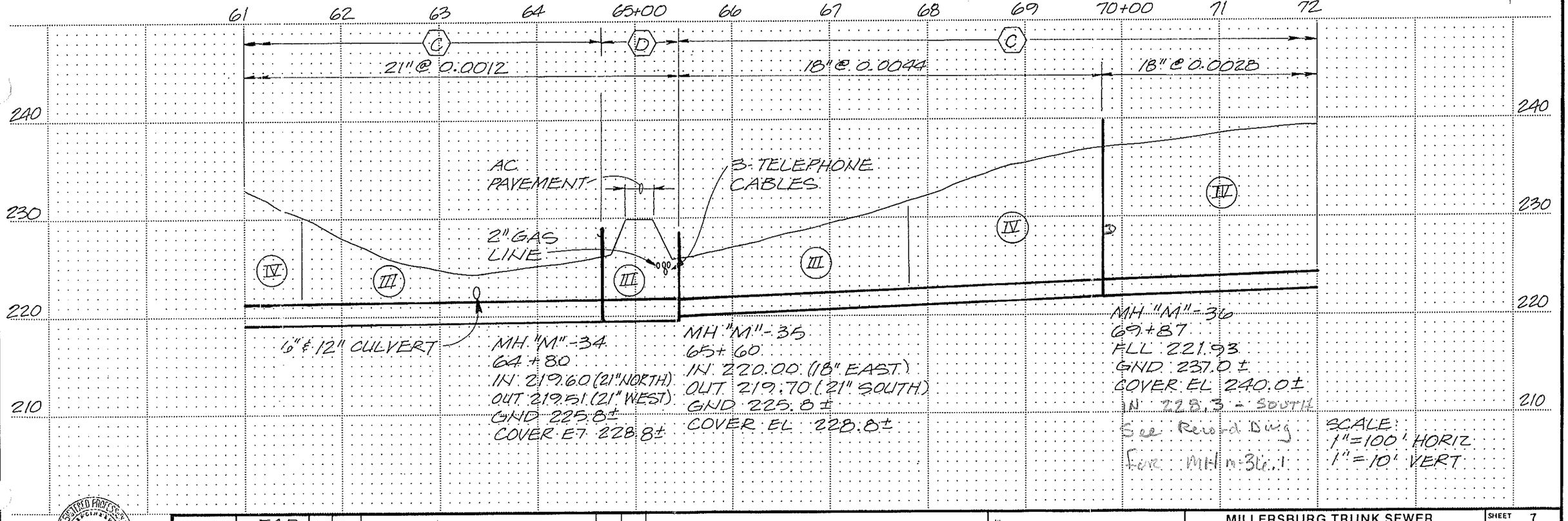
CITY OF MILLERSBURG
LINN COUNTY, OREGON

MILLERSBURG TRUNK SEWER
"M" LINE
PLAN AND PROFILE
STA 48+00 TO STA 61+00

SHEET 6
OF
DATE JUNE 82
DWG. NO. E16089 A1

80' EAST





REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1971
DALE K. CANNON

CH2M HILL

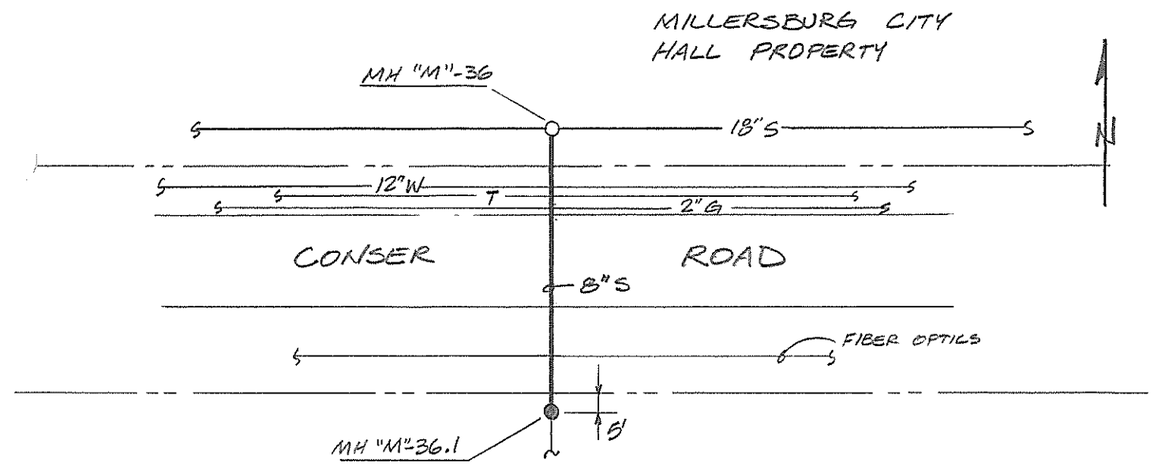
DES.	DR.	CHK.	APPD.	NO.	DATE	REVISION	BY	APPD.
TAB	GPG	DAC	DAC		11/82	RECORD DWG	JLM	

SANITARY SEWAGE COLLECTION SYSTEM
CONTRACT NO 2

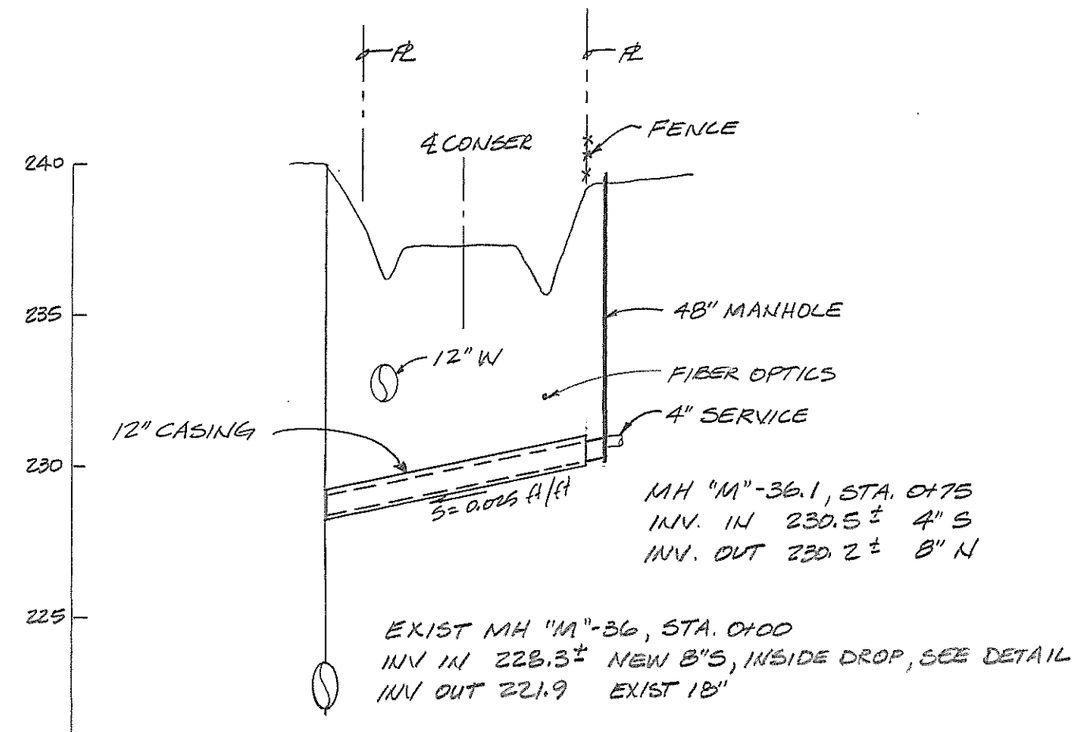
CITY OF MILLERSBURG
LINN COUNTY, OREGON

MILLERSBURG TRUNK SEWER
"M" LINE
PLAN AND PROFILE
STA 6 '00 TO STA 72'00

SHEET 7
OF 12
DATE JUNE 82
DWG. NO. E16089 A1



PLAN
1"=40'

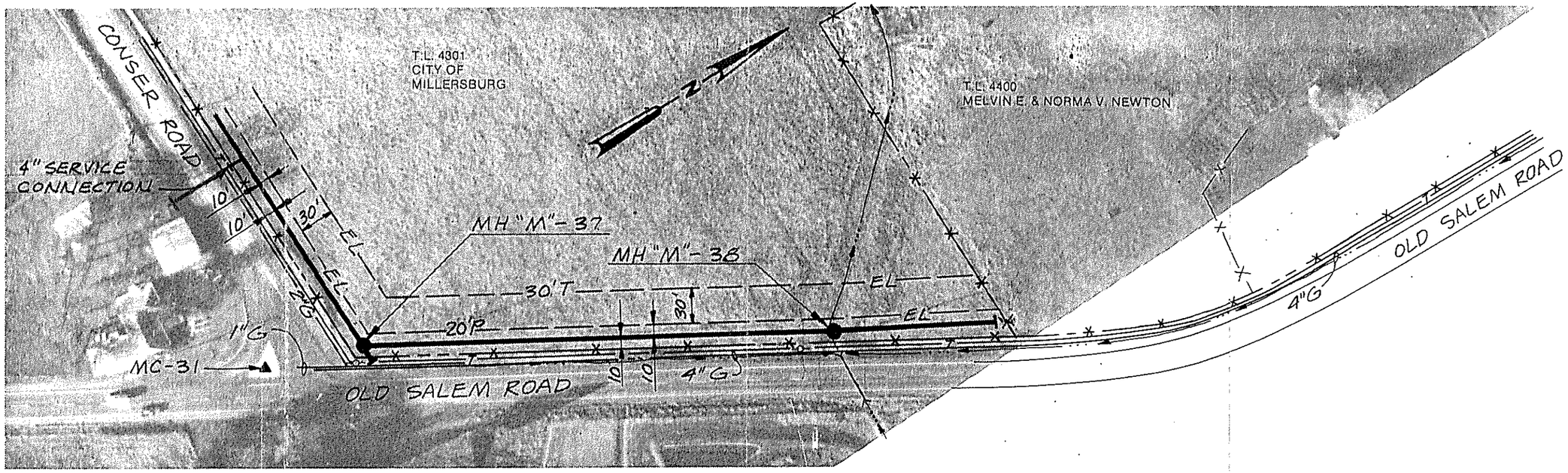


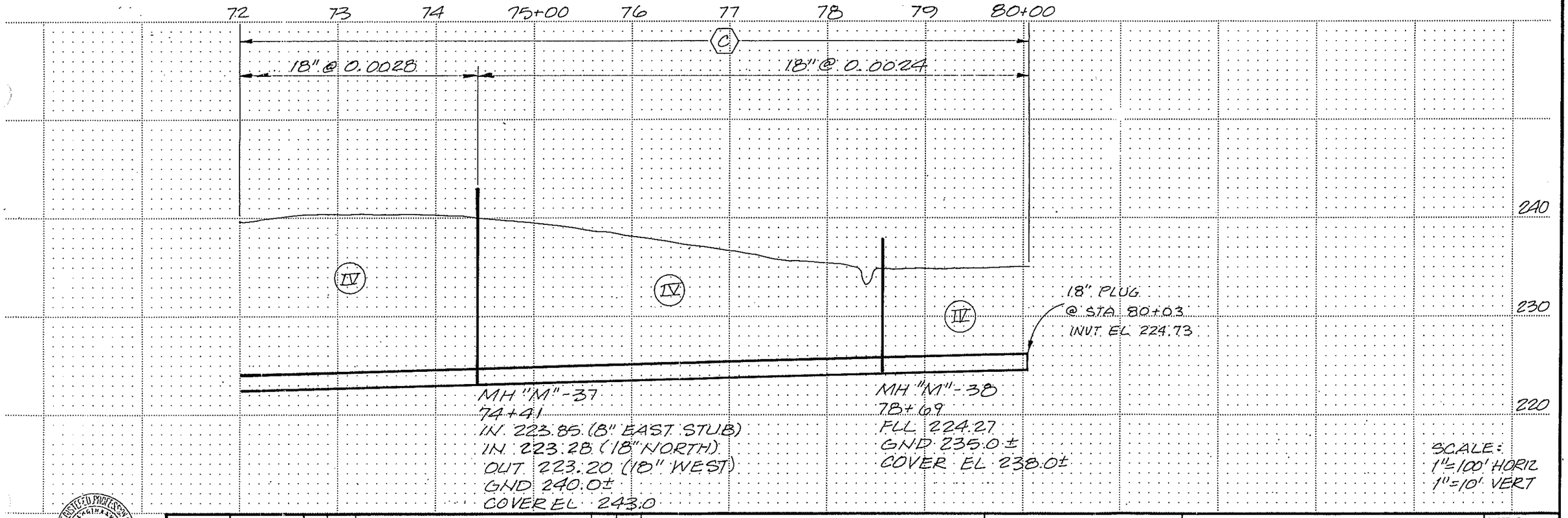
PROFILE
1"=40' HORIZ.
1"=5' VERT

RECORD DRAWING, DEC. 2003

CONSER ROAD CROSSING

CITY OF MILLERSBURG
MILLERSBURG, OREGON





REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 14, 1971
DALE A. CANNON

CH2M HILL

DES.	CRS
DR.	CRS
CHK.	DAC
APPD.	DAC

NO.	DATE	REVISION	BY	APPD.
	11/82	RECORD DWG	JLM	

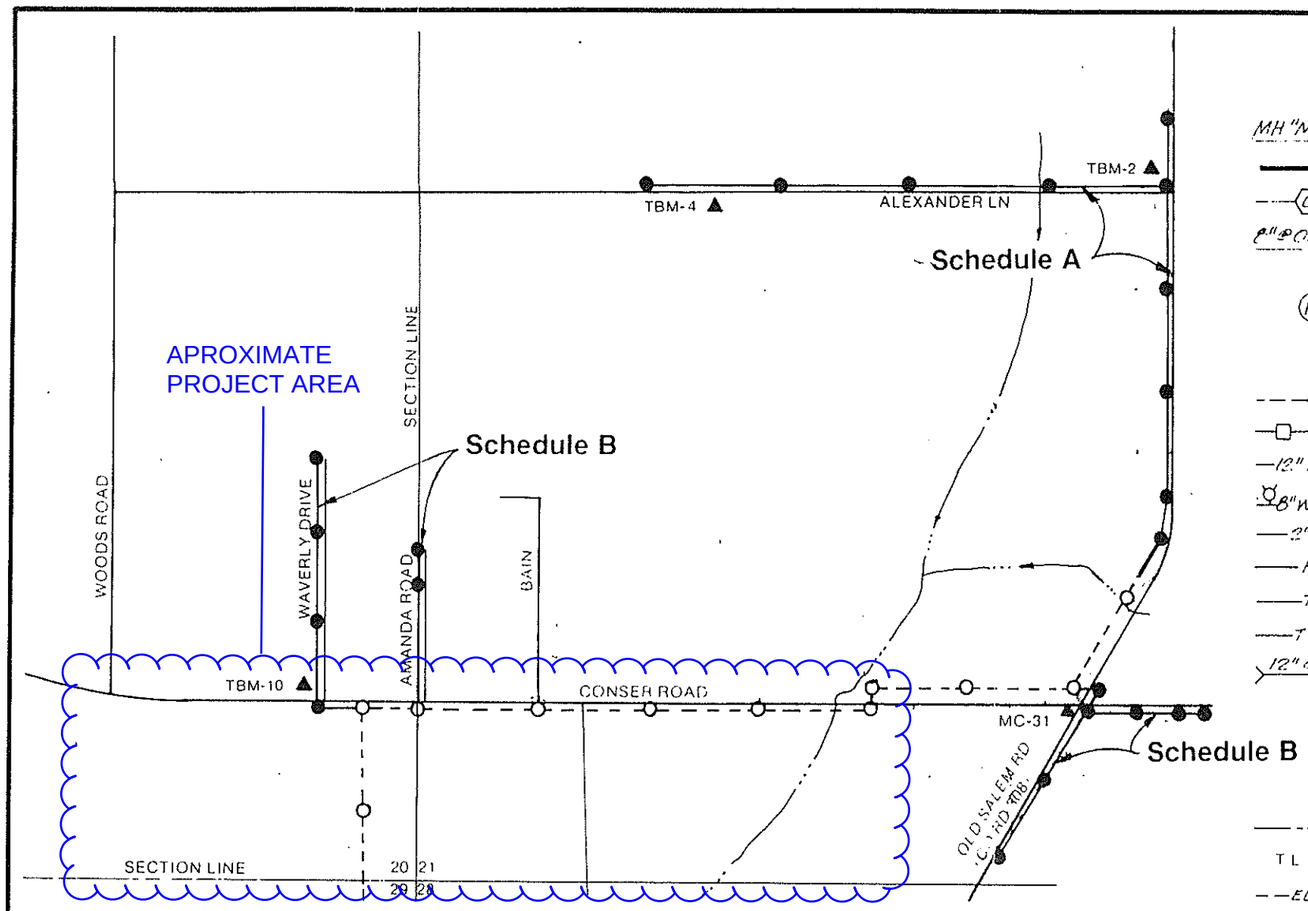
SANITARY SEWAGE COLLECTION SYSTEM
CONTRACT NO 2

CITY OF MILLERSBURG
LINN COUNTY, OREGON

MILLERSBURG TRUNK SEWER
"M" LINE
PLAN AND PROFILE
STA 72+00 TO STA 80+03

SHEET 8
OF 12
DATE JUNE 82
DWG. NO. E16089 A1

4. City of Millersburg Sanitary Sewer Collection System Contract 3



LOCATION MAP

- N -

NTS

TOWNSHIP 10 SOUTH
RANGE 3 WEST
WILLAMETTE MERIDAN

LEGEND

NEW

- MH "M"-6 — MANHOLE DESIGNATION
- GRAVITY SEWER WITH MANHOLE
- BACKFILL CLASSIFICATION
- 8"@0.004 — SIZE AND SLOPE OF PIPE (8" PIPE AT 0.0040 FT/FT)
- (IV) — ASTM C-76, CLASS III OR IV OR ASTM C-14, CLASS 2 OR 3 AS NOTED

EXISTING

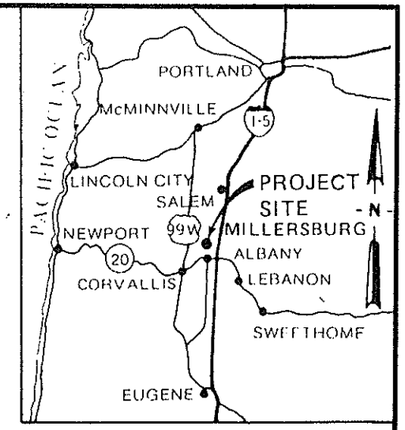
- SANITARY SEWER WITH MANHOLE
- STORM SEWER WITH CATCH BASIN AND MANHOLE
- 12" IRR — IRRIGATION PIPELINE
- 8"W — WATER PIPELINE WITH FIRE HYDRANT AND VALVE
- 2"G — GAS PIPELINE
- P — UNDERGROUND POWER CABLE
- T — UNDERGROUND TELEPHONE CABLE
- TV — UNDERGROUND TELEVISION CABLE
- 12" CMP — CULVERT (SIZE AND TYPE INDICATED)

GENERAL

- RIGHT-OF-WAY AND OR PROPERTY LINE
- T L 4400 — TAX LOT NUMBER
- EL — EASEMENT LINE
- 20P — WIDTH OF PERMANENT EASEMENT
- 30T — WIDTH OF TEMPORARY EASEMENT
- BM-1 — BENCH MARK LOCATION AND NUMBER
- DITCH SHOWING DIRECTION OF FLOW

ABBREVIATIONS LEGEND

EL	ELEVATION
FLL	FLOW LINE LEVEL
GND	GROUND
IE	INVERT ELEVATION
MH	MANHOLE



VICINITY MAP

BENCHMARK DESCRIPTION

TBM NO.	USC & GS ELEVATION	DESCRIPTION AND LOCATION
MC-31	242.36	NAIL AND SHINER IN CENTER OF RAISED ISLAND OF OLD SALEM ROAD AND CONSER ROAD
TBM-2	236.81	RAILROAD SPIKE IN SOUTH SIDE OF POWER POLE AT THE NORTHWEST CORNER OF THE INTERSECTION AT OLD SALEM ROAD AND ALEXANDER LANE
TBM-4	249.60	RAILROAD SPIKE IN NORTH SIDE OF POWER POLE AT SOUTH SIDE OF ALEXANDER LANE, TOP OF RISE IN FRONT OF PARK, 0.3 MILES WEST OF OLD SALEM ROAD
TBM-10	238.85	RAILROAD SPIKE IN EAST SIDE OF POWER POLE AT THE NORTHWEST CORNER OF THE INTERSECTION OF CONSER ROAD AND WAVERLY DRIVE

INDEX TO DRAWINGS

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 14, 1972 — JAMES M. GALLAGHER

CH2M HILL

DES	TMG
DR	JLM
CHK	DAC
APPD	TMG

NO	DATE	REVISION	BY	APPD
	12/83	RECORD DWG.	JLM	

SANITARY SEWAGE COLLECTION SYSTEM
SCHEDULE A & B — CONTRACT NO 3

CITY OF MILLERSBURG
LINN COUNTY, OREGON

VICINITY MAP; LOCATION MAP, BENCHMARK DESCRIPTIONS INDEX TO DRAWINGS AND LEGEND

SHEET 1 OF 13
DATE DEC 82
DWG. NO. E16523 A1

CITY OF MILLERSBURG
T.L.
4301

NEWTON
T.L.
4400

BENNETT
T.L.
2700

BENNETT
T.L.
2600

N

MH M-38
(EXST)

EXST.
18" PLUG

MH M-39

MH M-40

MH M-41

10'

3'

100'

30' T — — — EL

20' P — — — EL

30'

10'

6"

4"

G T G

OLD SALEM RD CO. RD. #308

60'

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00

C D C D C

18" @ 0.0024

250 240 230 220

REMOVE EXST 18" PLUG. CONNECT TO EXST 18" CONC. SEWER W/ STD. PIPE JOINT OR CONC. CLOSURE COLLAR

IV IV IV IV

0+00
FLL 224.73±,
FIELD VERIFY
GND 237.0±

MH M-39
0+95
FLL 224.96
GND 238.5±

MH M-40
2+31
FLL 225.28
GND 240.0±

MH M-41
6+81
FLL 226.36
GND 240.5±

SCALE :
1" = 100' HORIZ.
1" = 10' VERT.

REGISTERED PROFESSIONAL ENGINEER OREGON JULY 14, 1972 JIMMIE M. GILLESPIE

CH2M HILL

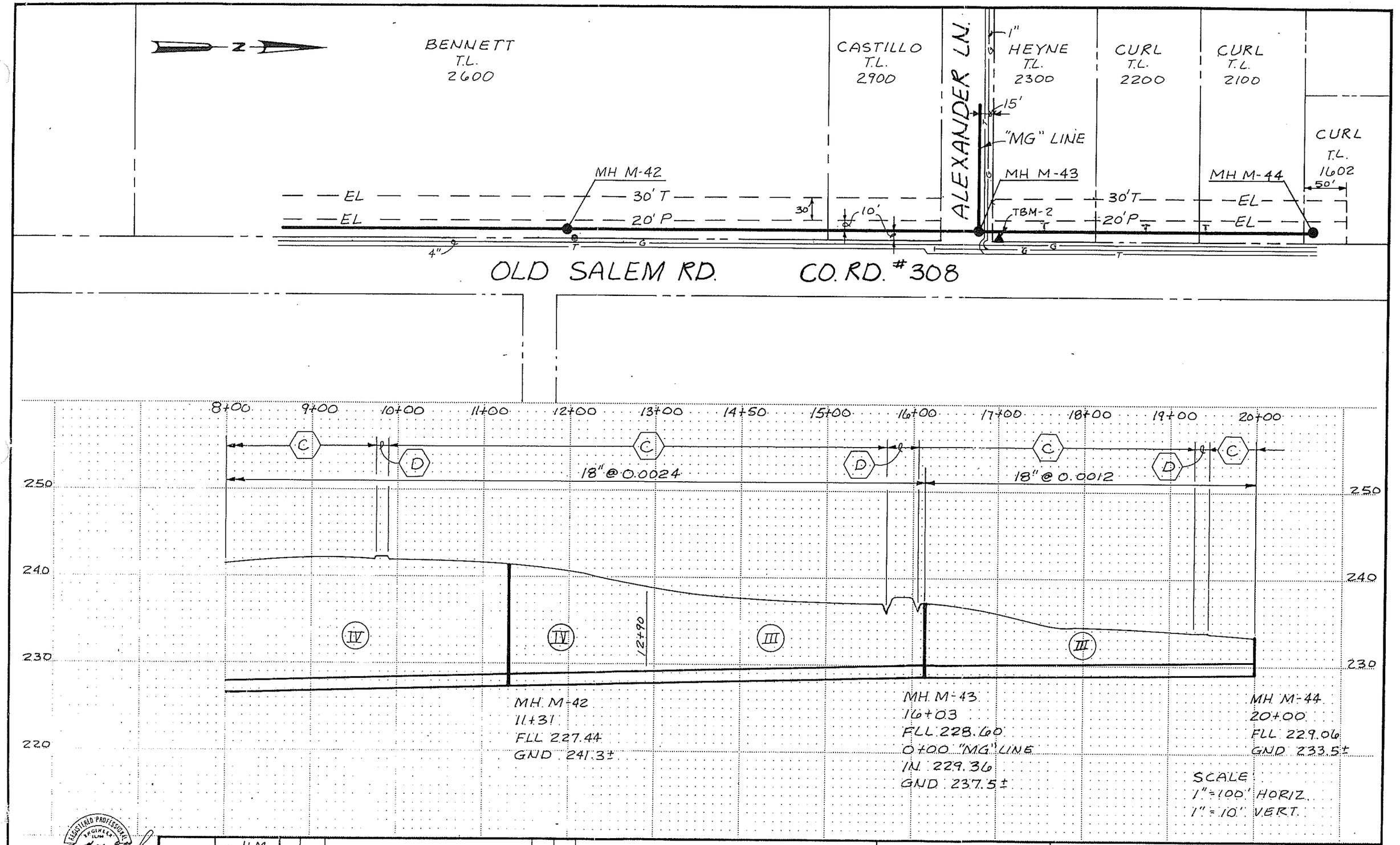
DES.	DR.	CHK.	APPD.	NO.	DATE	REVISION	BY	APPD.
JLM	JLM	DAC	TMG		12/83	RECORD DWG	JLM	

SANITARY SEWAGE COLLECTION SYSTEM
SCHEDULE A — CONTRACT NO 3

CITY OF MILLERSBURG
LINN COUNTY, OREGON

MILLERSBURG TRUNK SEWER
"M" LINE
PLAN AND PROFILE
STA 0·00 TO STA 8·00

SHEET 2
OF 14
DATE DEC 82
DWG. NO. E16523 A1



REGISTERED PROFESSIONAL ENGINEER OREGON TIMOTHY M. GALLAGHER

CH2M HILL

DES.	JLM
DR	JLM
CHK.	DAC
APPD.	TMG

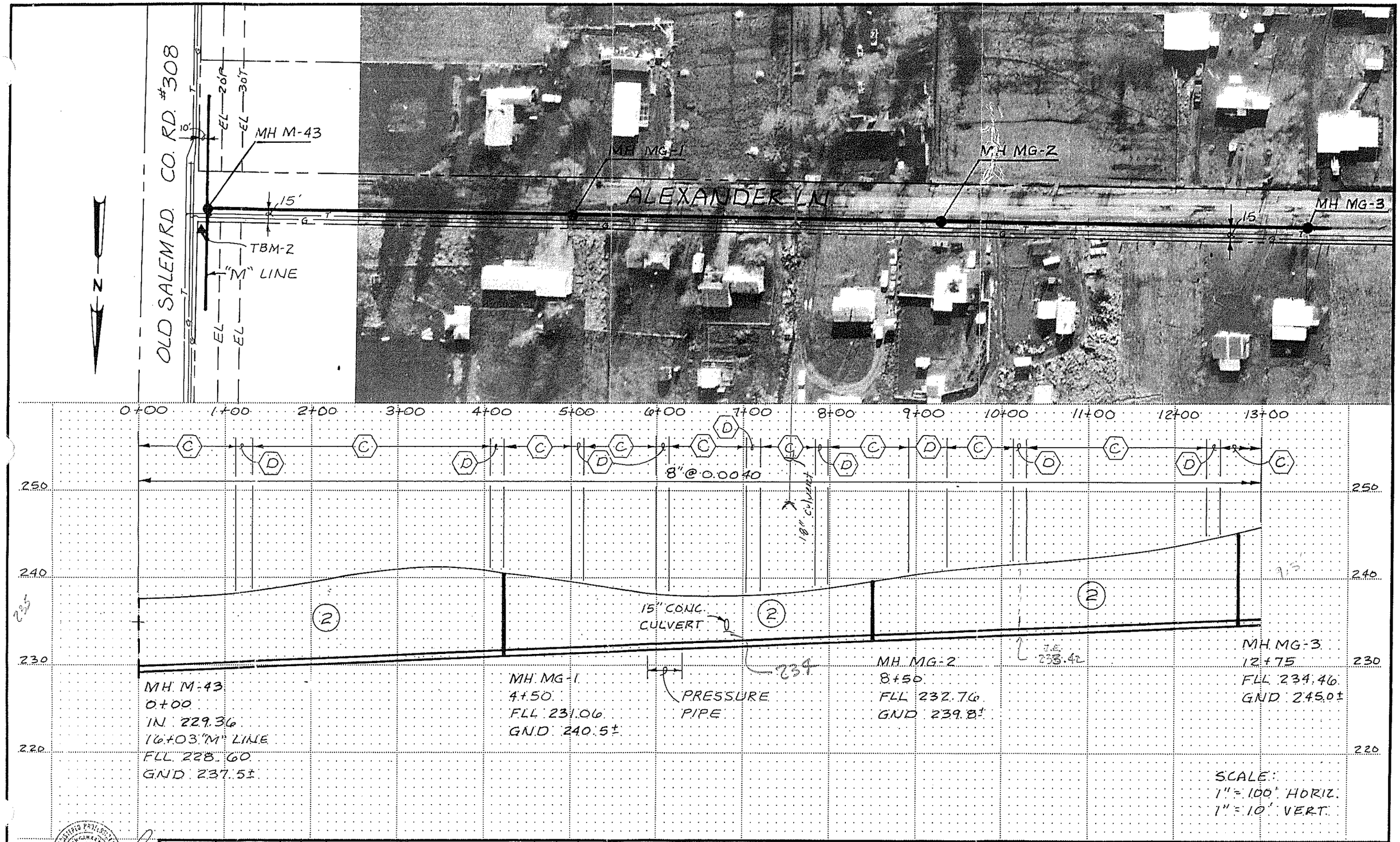
NO	DATE	REVISION	BY	APPD.
	12/83	RECORD DWG	JLM	

SANITARY SEWAGE COLLECTION SYSTEM
SCHEDULE A — CONTRACT NO.3

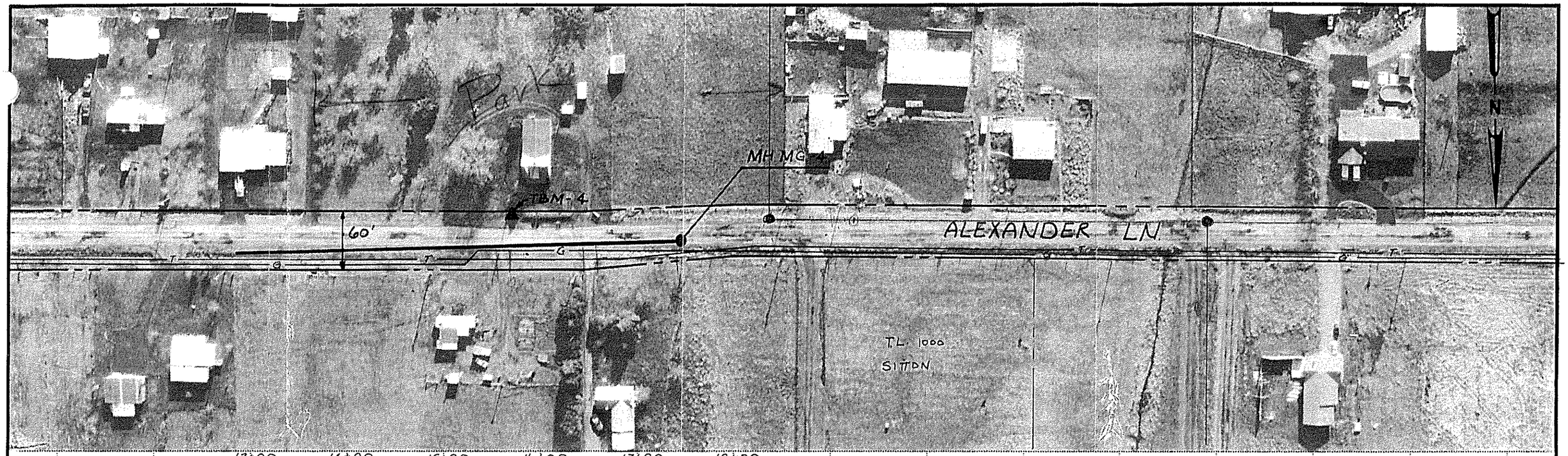
CITY OF MILLERSBURG
LINN COUNTY, OREGON

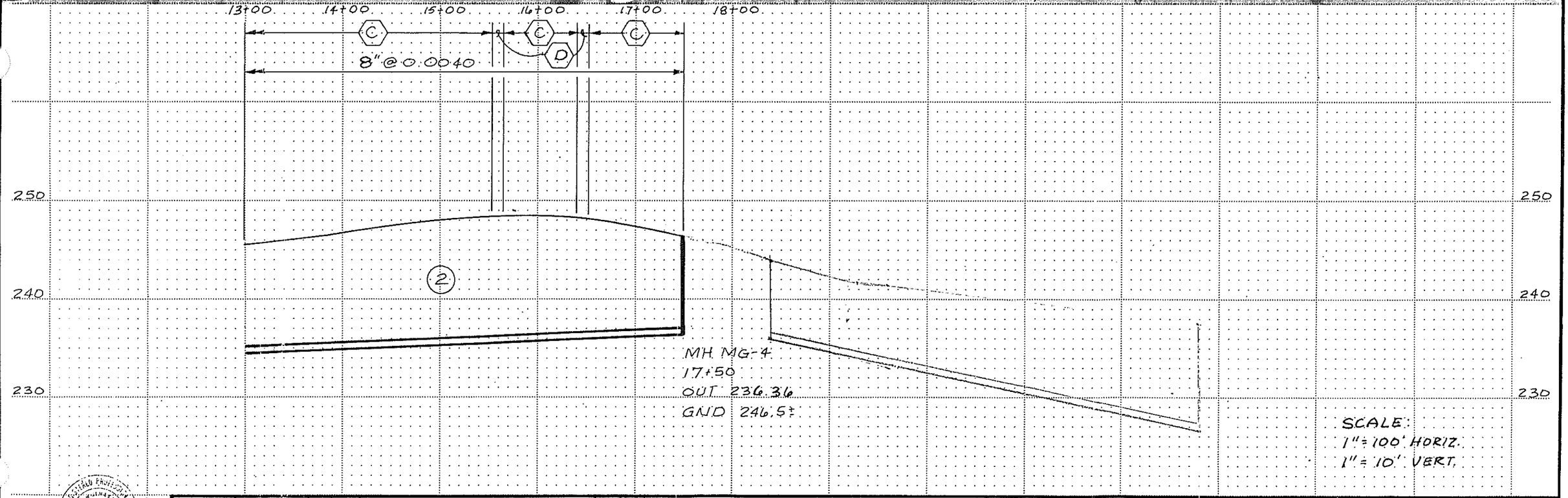
MILLERSBURG TRUNK SEWER
"M" LINE
PLAN AND PROFILE
STA 8+00 TO STA 20+00

SHEET 3 OF 13
DATE DEC 82
DWG. NO. E16523 A1



CH2M HILL	DES. JLM DR. JLM CHK. DAC APPD. TMG	NO.	DATE	REVISION	BY	APPD.	SANITARY SEWAGE COLLECTION SYSTEM SCHEDULE A — CONTRACT NO 3	CITY OF MILLERSBURG LINN COUNTY, OREGON	MILLERSBURG SEWER "MG" LINE PLAN AND PROFILE STA 0·00 TO STA 13·00	SHEET 4 OF 11 DATE DEC 82 DWG. NO. E16523 A1
		12/83		RECORD DWG	JLM					





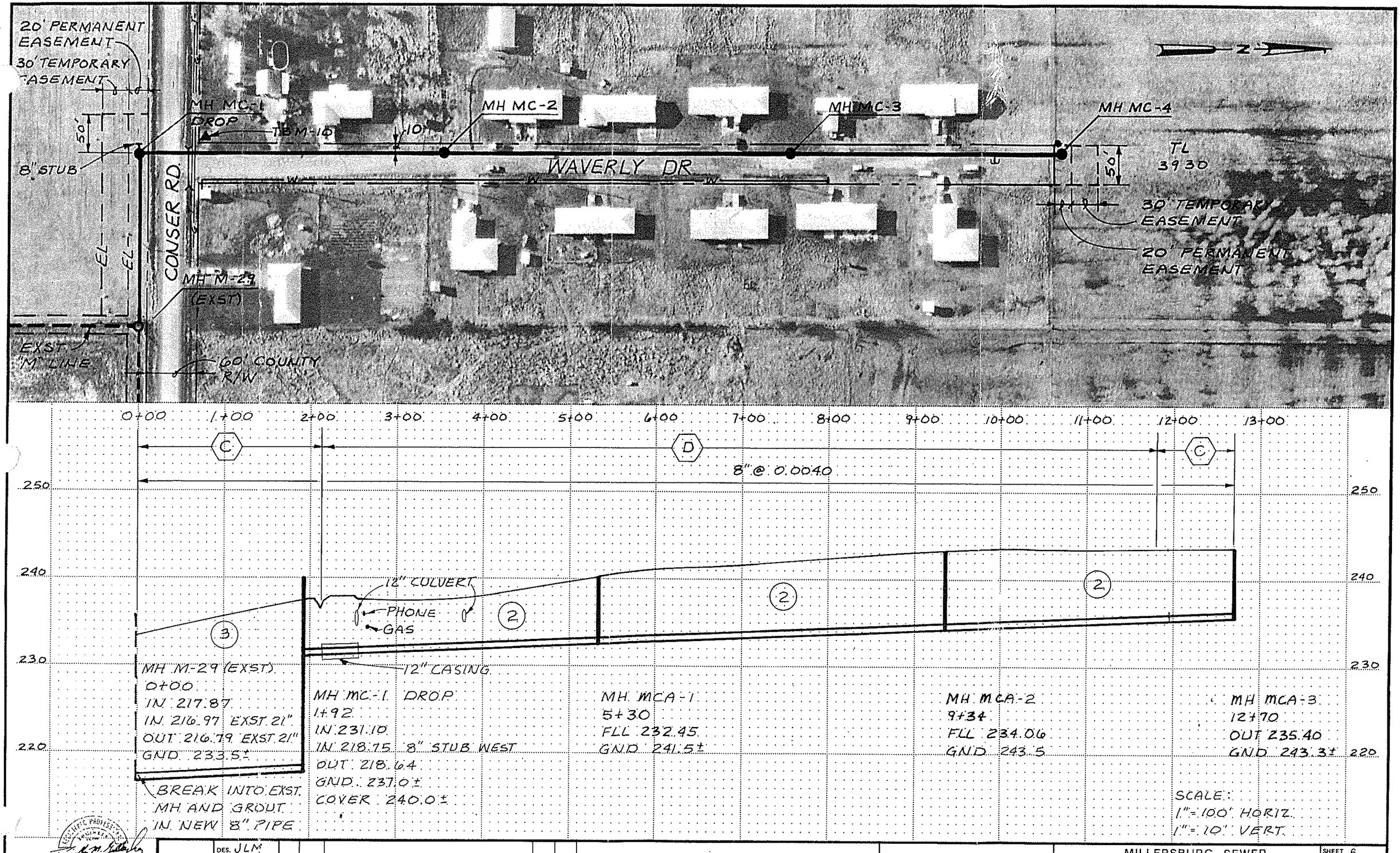
CH2M HILL	DES. JLM DR. JLM CHK. DAC APPD. TMG	NO.	DATE	REVISION	BY	APPD.	
			12/83	RECORD DWG	JLM		

SANITARY SEWAGE COLLECTION SYSTEM
SCHEDULE A — CONTRACT NO 3

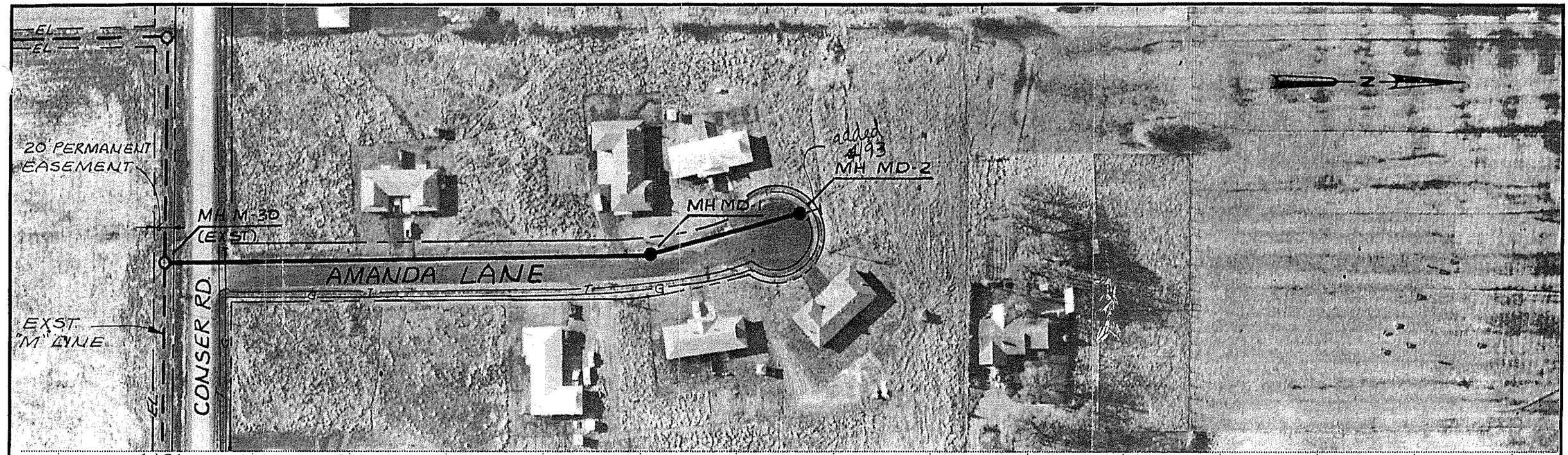
CITY OF MILLERSBURG
LINN COUNTY, OREGON

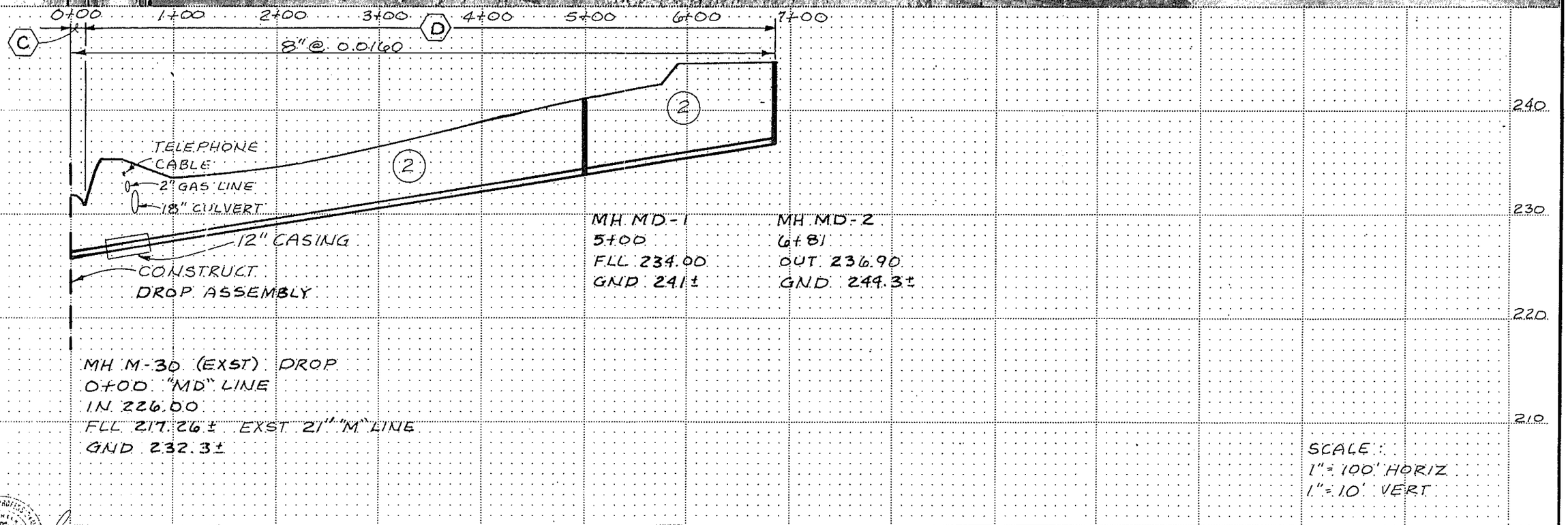
MILLERSBURG SEWER
"MG" LINE
PLAN AND PROFILE
STA 13+00 TO STA 17+50

SHEET 5 OF 13
DATE DEC 82
DWG. NO. E16523 A1



CH2M HILL	DES. JLM DR. JLM CHK. DAC APPD. TMG	NO.	DATE	REVISION	BY	APPD.	SANITARY SEWAGE COLLECTION SYSTEM SCHEDULE B CONTRACT NO 3	CITY OF MILLERSBURG LINN COUNTY, OREGON	MILLERSBURG SEWER "MCA" LINE PLAN AND PROFILE STA 0-00 TO STA 12-70	SHEET 6 OF 13 DATE DEC 82 DWG. NO. E16523 A1
			12/83	RECORD DWG	JLM					





REGISTERED PROFESSIONAL ENGINEER — OREGON — TIMOTHY M. GALLAGHER

CH2M HILL	DES. JLM DR. JLM CHK. DAC APPD. TMG	NO.	DATE	REVISION	BY	APPD.	
			12/83	RECORD DWG	JLM		

SANITARY SEWAGE COLLECTION SYSTEM
SCHEDULE B — CONTRACT NO 3

CITY OF MILLERSBURG
LINN COUNTY, OREGON

MILLERSBURG SEWER
"MD" LINE
PLAN AND PROFILE
STA 0·00 TO STA 6·81

SHEET 7 OF 16
DATE DEC 82
DWG. NO. E16523 A1

SOUTHERN PACIFIC
TL
4501

CONSER RD

"MFA" LINE

REIMERS
TL
4700

TIMBER BY-PRODUCT
TL
4701

SCHABLE
TL
300

MH MF-1

MH MF-2

MH MF-3

30'T — EL — 30'T

20'P — EL — 20'P

10'

20'

30'

50'

OLD SALEM RD

EXST "M" LINE

MH M-43
EXST

MC-31

CITY OF MILLERSBURG
TL
4500

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00

12" CASING

8" @ 0.06

8" @ 0.0040

C

D

250

240

230

220

PHONE

GAS

EXST 8" STUB

MH M-37 (EXST)
0+00
IN 224.07
74+41 "M" LINE
OUT 223.20±
GND 240.5±

MH MF-1
0+93
FLL 230.10
0+00 "MFA" LINE
IN 230.10
GND 241.0±

MH MF-2
5+07
FLL 231.76
GND 245.0±

MH MF-4
8+93
OUT 233.24
GND 246.5±

SCALE:
1" = 100' HORIZ
1" = 10' VERT

REGISTERED PROFESSIONAL ENGINEER — OREGON — TIMOTHY M. GALLAGHER — 1983

CH2M HILL

DES	DR	CHK.	APPD.
JLM	JLM	DAC	TMG

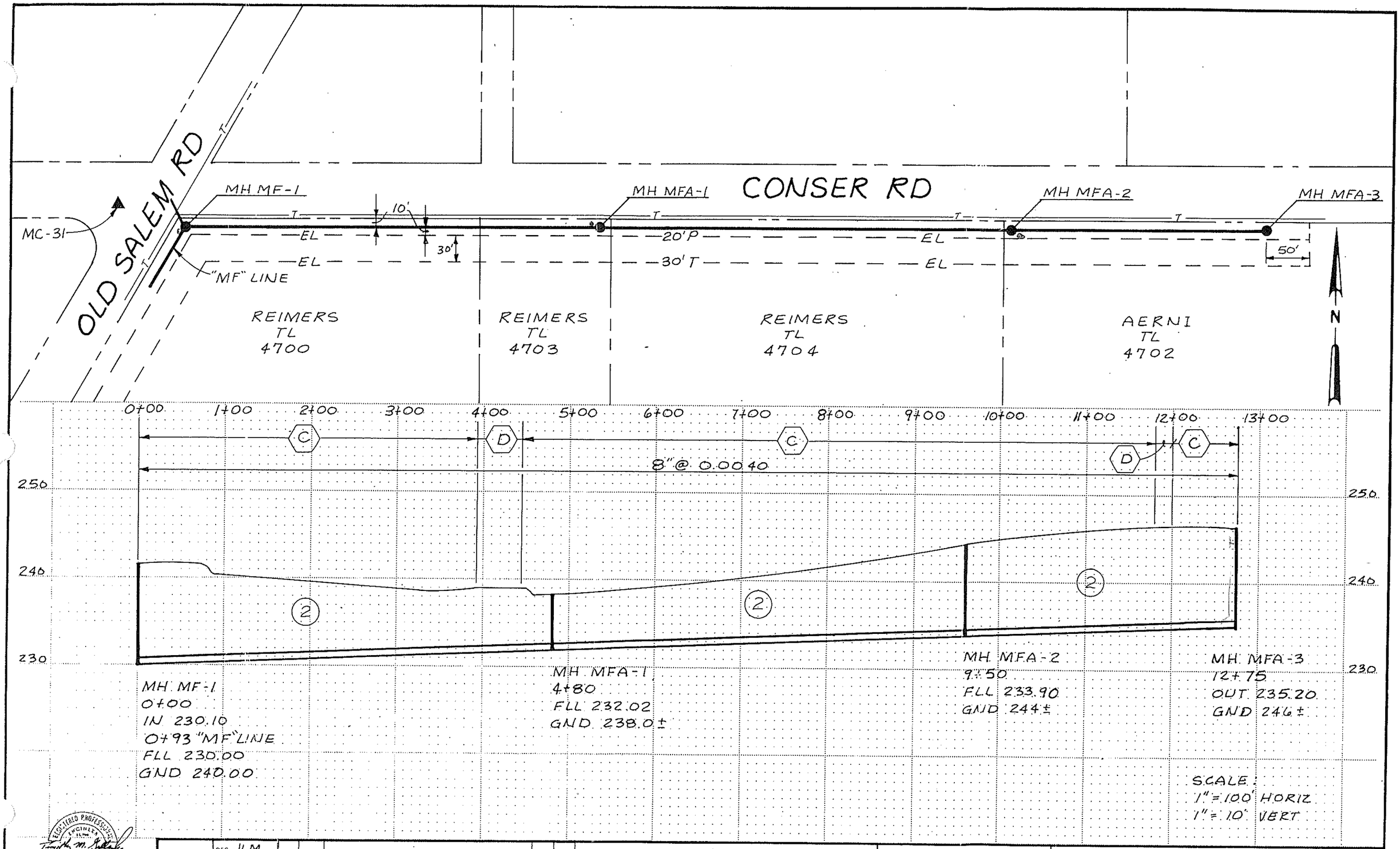
NO	DATE	REVISION	BY	APPD
	12/83	RECORD DWG.	JLM	

SANITARY SEWAGE COLLECTION SYSTEM
SCHEDULE B CONTRACT NO. 3

CITY OF MILLERSBURG
LINN COUNTY, OREGON

MILLERSBURG SEWER
"MF" LINE
PLAN AND PROFILE
STA 0+00 TO STA 8+93

SHEET 8 OF 13
DATE DEC 82
DWG. NO. E16523 A1



REGISTERED PROFESSIONAL ENGINEER OREGON JULY 14, 1972 TIMOTHY M. GALLAGHER

CH2M HILL

DES. JLM					
DR. JLM					
CHK. DAC					
APPD. TMG	NO.	DATE	REVISION	BY	APPD.
	12/83		RECORD DWG.	JLM	

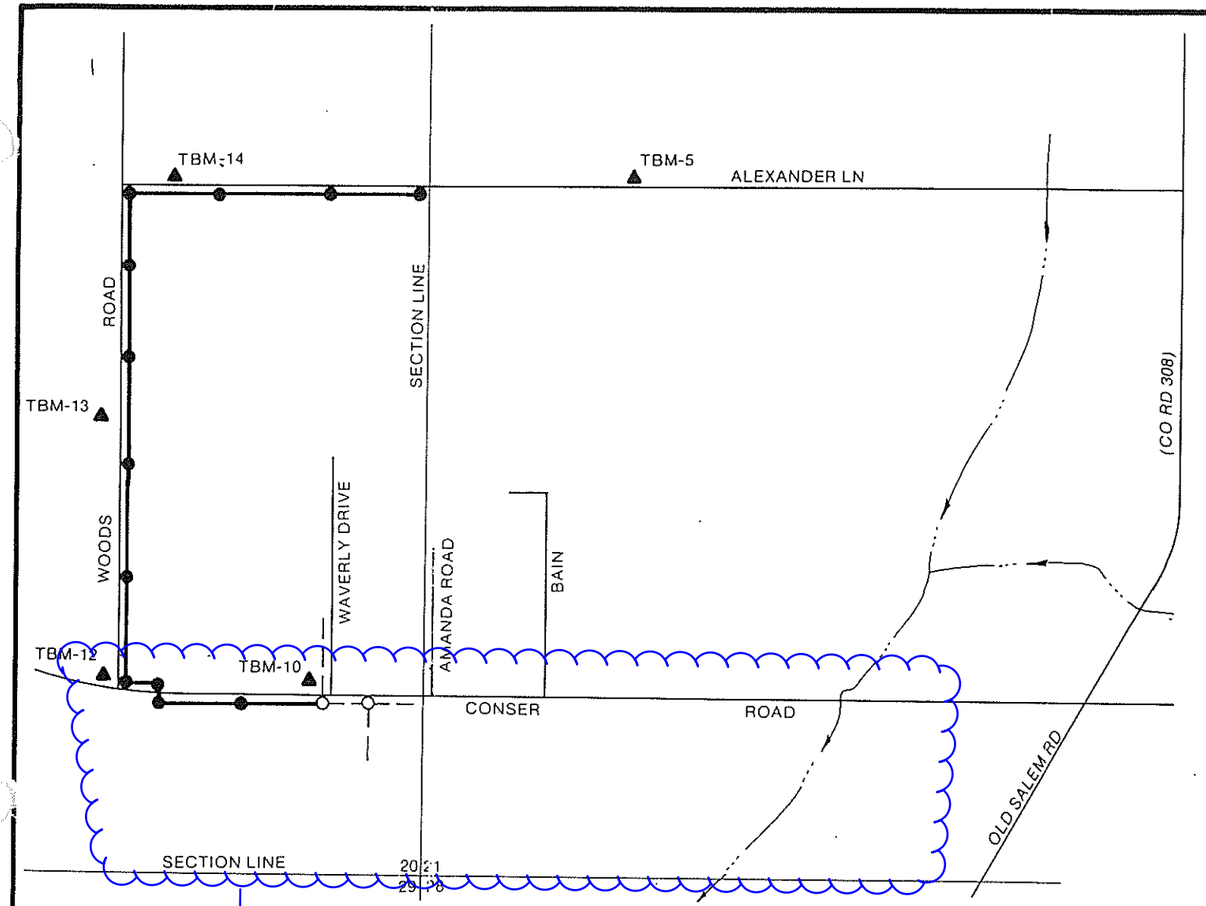
SANITARY SEWAGE COLLECTION SYSTEM
SCHEDULE B · CONTRACT NO. 3

CITY OF MILLERSBURG
LINN COUNTY, OREGON

MILLERSBURG SEWER
"MFA" LINE
PLAN AND PROFILE
STA 0·00 TO STA 12·50

SHEET 9 OF 13
DATE DEC 82
DWG. NO. E16523 A1

5. City of Millersburg Sanitary Sewer Collection System Contract 4



APPROXIMATE PROJECT AREA

LOCATION MAP

- N -

NTS

TOWNSHIP 10 SOUTH
RANGE 3 WEST
WILLAMETTE MERIDAN

LEGEND

NEW

- MH "M"-6 — MANHOLE DESIGNATION
- GRAVITY SEWER WITH MANHOLE
- BACKFILL CLASSIFICATION
- 8"@0.004 — SIZE AND SLOPE OF PIPE (8" PIPE AT 0.0040 FT/FT)
- (IV) — ASTM C-76, CLASS III OR IV OR ASTM C-14, CLASS 2 OR 3 AS NOTED

EXISTING

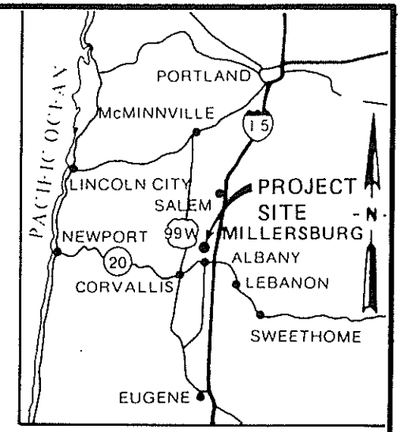
- SANITARY SEWER WITH MANHOLE
- STORM SEWER WITH CATCH BASIN AND MANHOLE
- 12" IRR — IRRIGATION PIPELINE
- 8"W — WATER PIPELINE WITH FIRE HYDRANT AND VALVE
- 2"G — GAS PIPELINE
- P — UNDERGROUND POWER CABLE
- T — UNDERGROUND TELEPHONE CABLE
- TV — UNDERGROUND TELEVISION CABLE
- 12" CMP — CULVERT (SIZE AND TYPE INDICATED)
- FENCE LINE
- UTILITY POLE WITH GUY ANCHOR

GENERAL

- RIGHT-OF-WAY AND OR PROPERTY LINE
- T L 4400 — TAX LOT NUMBER
- EL — EASEMENT LINE
- 20P — WIDTH OF PERMANENT EASEMENT
- 30T — WIDTH OF TEMPORARY EASEMENT
- ▲BM-1 — BENCH MARK LOCATION AND NUMBER
- DITCH SHOWING DIRECTION OF FLOW

ABBREVIATIONS LEGEND

EL	ELEVATION
FLL	FLOW LINE LEVEL
GND	GROUND
IE	INVERT ELEVATION
MH	MANHOLE



VICINITY MAP

BENCHMARK DESCRIPTION

TBM NO.	USC&GS ELEVATION	DESCRIPTION AND LOCATION
TBM-5	236.07	RAILROAD SPIKE IN NORTH SIDE OF POWER POLE (PP&L #211503); 45' ± NORTH OF CENTERLINE ALEXANDER LANE AND 2090' ± EAST OF THE INTERSECTION OF WOODS ROAD AND ALEXANDER LANE
TBM-10	238.85	RAILROAD SPIKE IN EAST SIDE OF POWER POLE AT THE NORTHWEST CORNER OF THE INTERSECTION OF CONSER ROAD AND WAVERLY DRIVE
TBM-12	240.84	RAILROAD SPIKE IN NORTHEAST SIDE OF POWER POLE (PP&L #207100) AT THE NORTHWEST CORNER OF THE INTERSECTION OF CONSER ROAD AND WOODS ROAD
TBM-13	234.79	RAILROAD SPIKE IN SOUTH SIDE OF POWER POLE (PP&L #207302) ON WEST SIDE OF WOODS ROAD, 1040 ± FEET NORTH OF THE INTERSECTION OF CONSER ROAD AND WOODS ROAD
TBM-14	238.12	RAILROAD SPIKE IN SOUTH SIDE OF POWER POLE (PP&L #207501) ON NORTH SIDE OF WOODS ROAD, 210 ± FEET EAST OF THE INTERSECTION OF WOODS ROAD AND ALEXANDER LANE

INDEX TO DRAWINGS

REGISTERED PROFESSIONAL ENGINEER — OREGON — TIMOTHY M. MILLETTICH — EXPIRES: 12-31-83

CH2M HILL

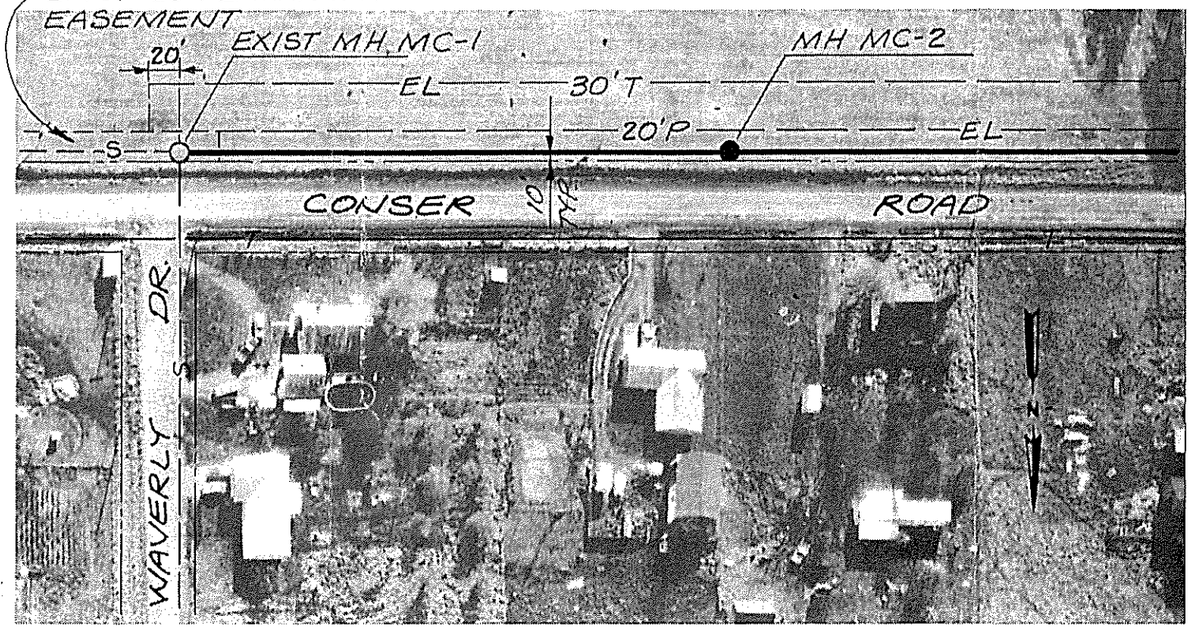
DES	EGS				
DR	EGS				
CHK	TMG				
APPD	DA	NO.	DATE	REVISION	BY / APPD
			12/83	RECORD DWG	JLM

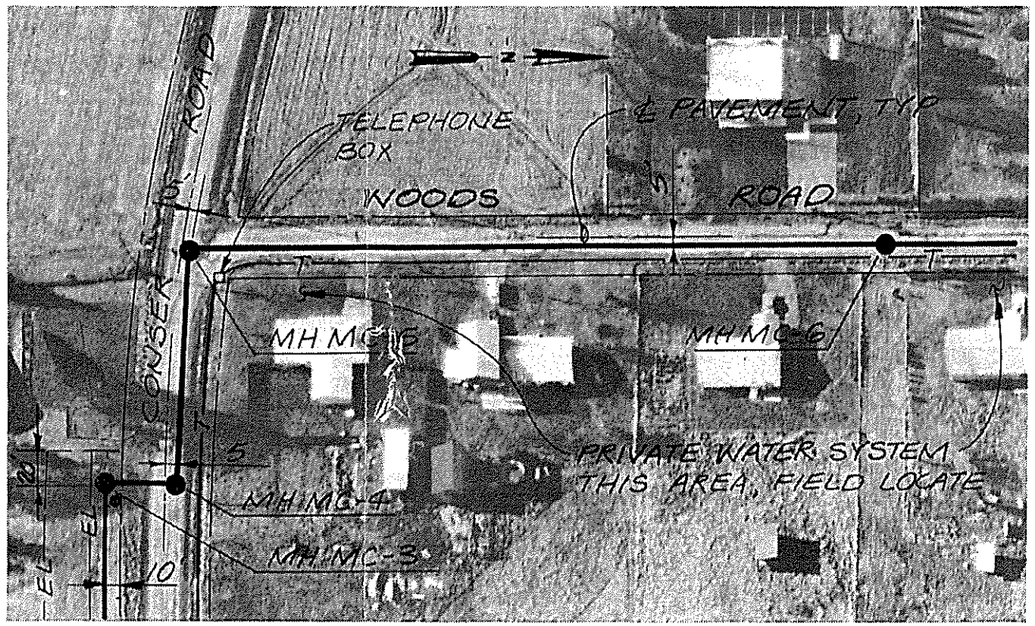
SANITARY SEWAGE COLLECTION SYSTEM
CONTRACT NO. 4

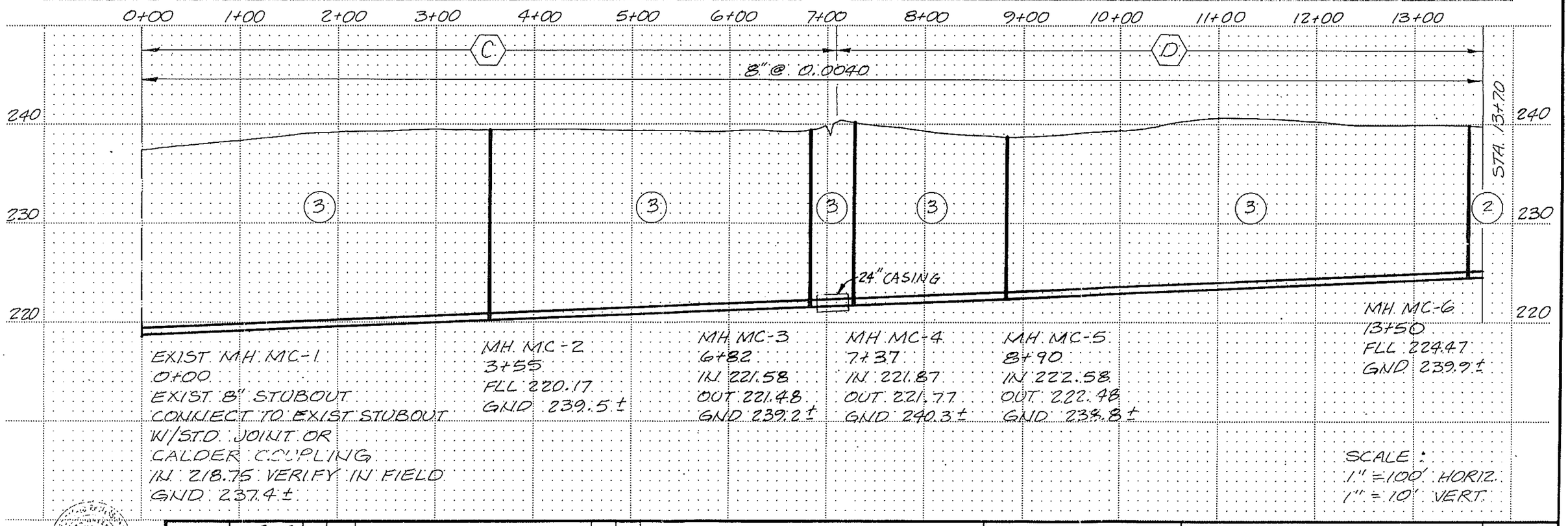
CITY OF MILLERSBURG
LINN COUNTY, OREGON

VICINITY MAP; LOCATION MAP; BENCHMARK DESCRIPTIONS; INDEX TO DRAWINGS AND LEGEND

SHEET 1 OF 8
DATE JULY 83
DWG. NO. E17195.A1







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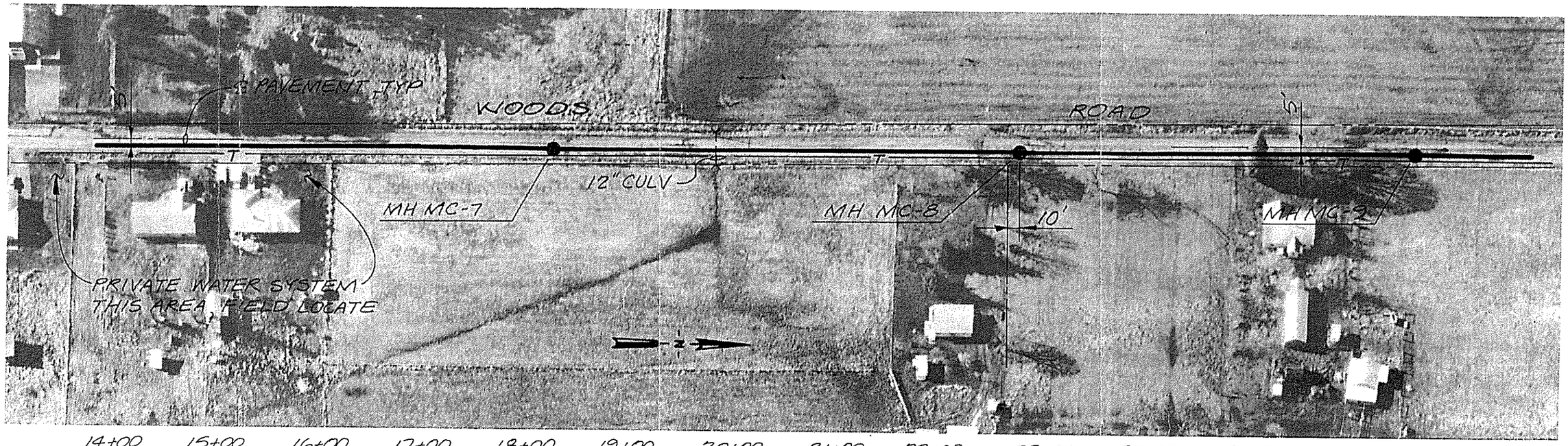
			12/83	RECORD DWG	JLM		CITY OF MILLERSBURG LINN COUNTY, OREGON
							MILLERSBURG SEWER "MC" LINE PLAN AND PROFILE STA 0·00 TO STA 13·70
							SHEET 2 OF 8 DATE JULY 83 DWG. NO. E17195 A1



14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00

D

8"@ 0.004.0

240

230

220

STA. 13+70

STA. 27+50

12" CULV

2

MH MC-7
18+00
FLL 226.27
GND 235.4 ±

MH MC-8
22+53
FLL 228.05
GND 237.4 ±

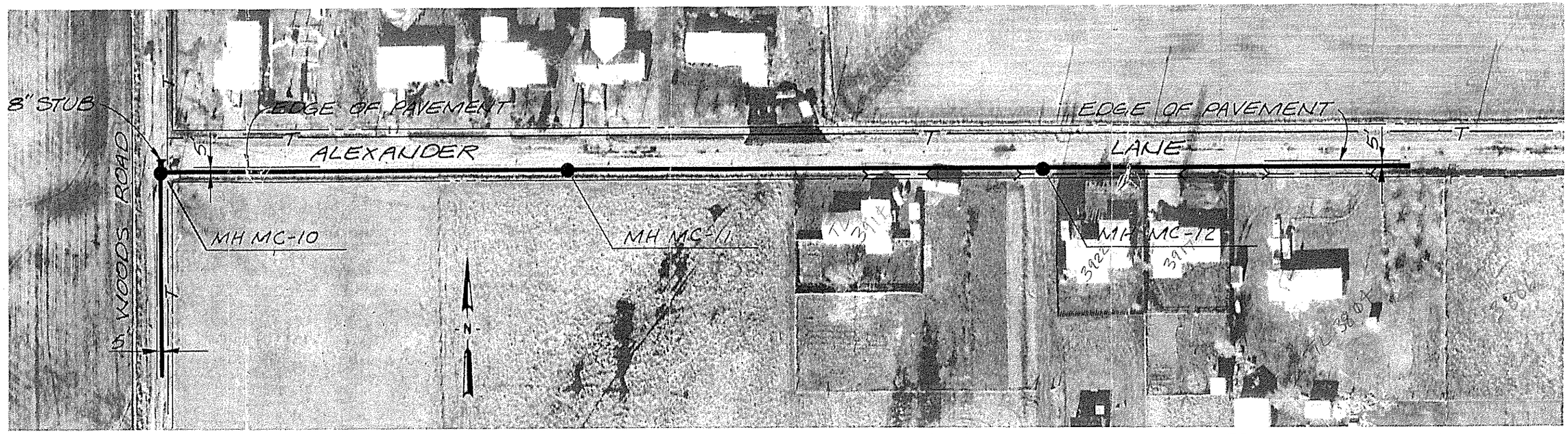
MH MC-9
25+90
FLL 229.81
GND 239.4 ±

SCALE:
1" = 100' HORIZ.
1" = 10' VERT.

Timothy M. Gallagher
EXPIRES 6/30/84

CH2M HILL	DES. GGS DR. GGS CHK. TMG APPD. DAC	NO.	DATE	REVISION	BY	APPD.	SANITARY SEWAGE COLLECTION SYSTEM CONTRACT NO 4
			12/83	RECORD DWG.	JLM		CITY OF MILLERSBURG LINN COUNTY, OREGON
							MILLERSBURG SEWER "MC" LINE PLAN AND PROFILE STA 13+70 TO STA 27+50

SHEET 3 OF 8
DATE JULY 83
DWG. NO. E17195 A1



28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00

D

8" @ 0.0040

STA. 27+50

STA. 41+50

240

230

220

2

2

2

2

M.H. MC-10
29+41
IN 230.92
OUT 230.82
GND 236.0±

M.H. MC-11
33+30
FLL 232.49
GND 239.5±

M.H. MC-12
37+95
FLL 234.33
GND 239.9±

SCALE:
1" = 100' HORIZ
1" = 10' VERT

REGISTERED PROFESSIONAL ENGINEER
OREGON
Thomas M. Gallier
EXPIRES: 6-30-84

CH2M HILL

DES.	GGS
DR.	GGS
CHK.	TMG
APPD.	DAC

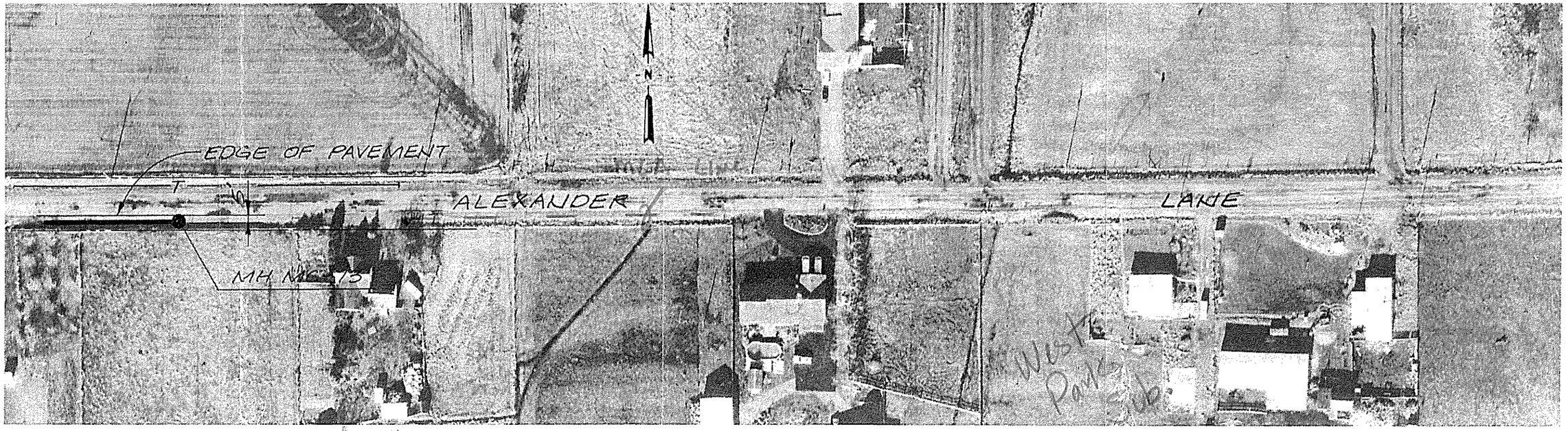
NO.	DATE	REVISION	BY	APPD.
	12/83	RECORD DWG	JLM	

SANITARY SEWAGE COLLECTION SYSTEM
CONTRACT NO 4

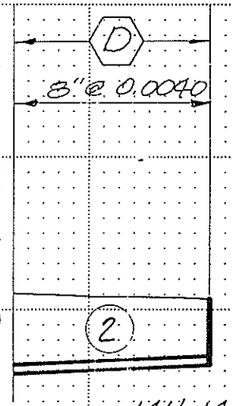
CITY OF MILLERSBURG
LINN COUNTY, OREGON

MILLERSBURG SEWER "MC" LINE
PLAN AND PROFILE
STA 27+50 TO STA 41+50

SHEET	4
OF	8
DATE	JULY 83
DWG. NO.	E17195 A1



42+00



240

240

230

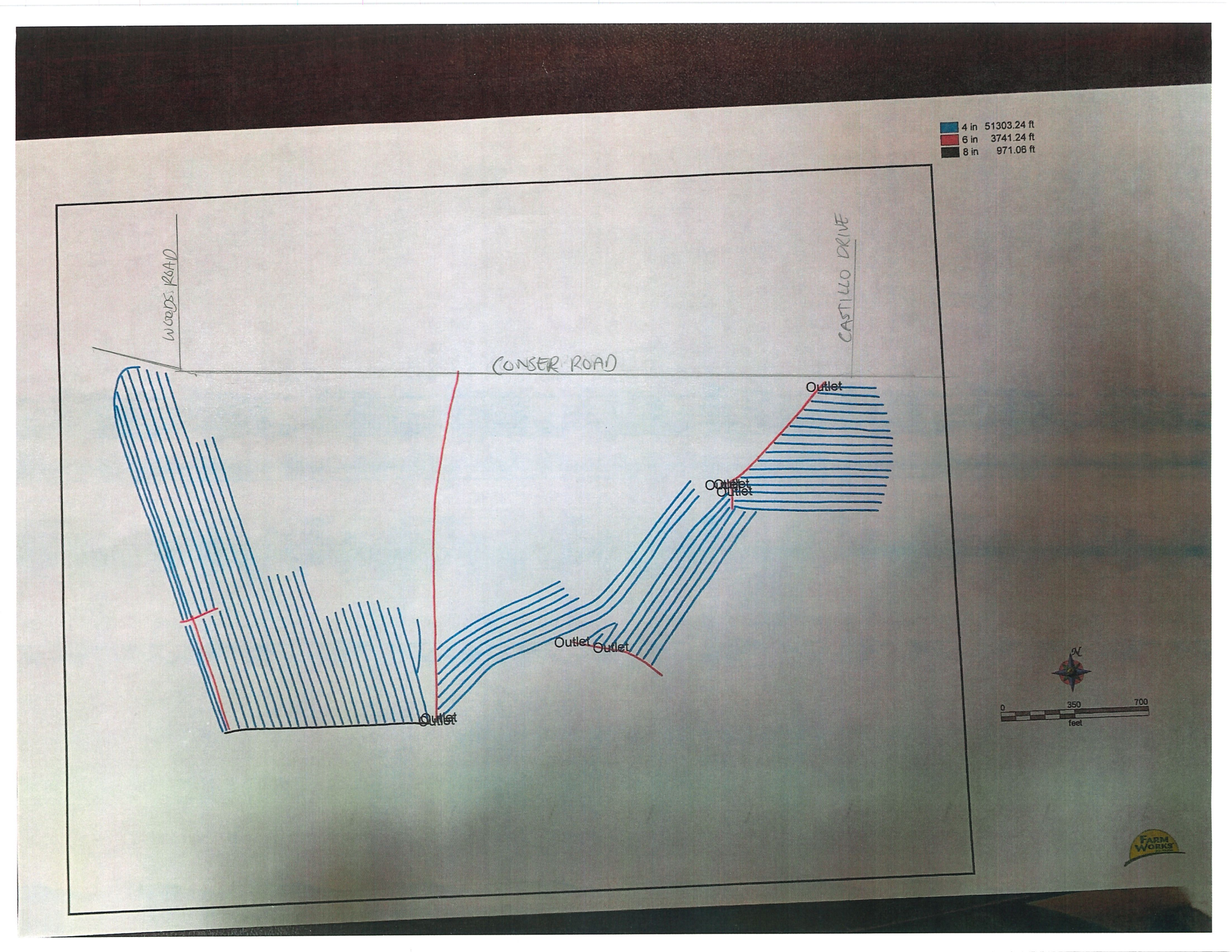
230

MH MC-13
42+80
OUT 236.27
GND 240.7 ±

SCALE:
1" = 100' HORIZ.
1" = 10' VERT

CH2M HILL	DES. GGS DR. GGS CHK. TMG APPD. DAC	NO.	DATE	REVISION	BY	APPD.	SANITARY SEWAGE COLLECTION SYSTEM CONTRACT NO 4	CITY OF MILLERSBURG LINN COUNTY OREGON	MILLERSBURG SEWER "MC" LINE PLAN AND PROFILE STA 41+50 TO STA 42+80	SHEET 5 OF 8 DATE JULY 83 DWG. NO. E17195 A1
			12/83	RECORD DWG	JLN					

6. Drain Tile Figure with Streets Added


4 in 51303.24 ft
6 in 3741.24 ft
8 in 971.06 ft
WOODS ROAD
CONSER ROAD
CASTILLO DRIVE
Outlet
Outlet
Outlet
Outlet
Outlet
Outlet
Outlet
N
0
350
700
feet
FARM WORKS

7. Millersburg Fire Station 15 Conformed Civil Drawings

CONCEPTUAL RENDERING

Station 15

Millersburg Fire

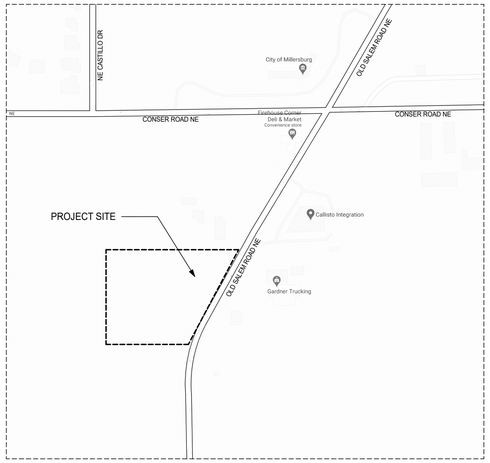
3215 Transition Parkway NE
Albany, OR 97321

CONFORM SET
4/2/21

Soderstrom
Architects

DATE PRINTED: 4/2/2021 6:45:17 PM
FILE PATH: BIM 360://Millersburg Fire Station/Millersburg FS-CDs.rvt

VICINITY MAP:



Station 15

PROJECT ADDRESS:

3215 Transition Parkway NE
Albany, OR 97321

PROJECT SUMMARY:

CONSTRUCTION OF A NEW SINGLE-STORY FIRE STATION WITH ROOM FOR 5 APPARATUS AND DORMATORIES FOR SIX ALONG WITH A COMMUNITY MEETING ROOM.

PROJECT TEAM

OWNER
CITY OF MILLERSBURG
cityofmillersburg.org
4222 NE Old Salem Road
Millersburg, OR 97321
(458) 233-6300
Kevin Kreitman, City Manager
Janelle Booth, Assistant City Manager

ARCHITECT
SODERSTROM ARCHITECTS, LTD.
www.sdra.com
1200 NW Natio Parkway, Suite 410
Portland, OR 97209
(503) 228-5617
Fax. (503) 273-8584
Dan VanCalcar, Principal
Erica Jankowski, Project Manager/Architect

STRUCTURAL ENGINEER
CROW ENGINEERING
www.crowengineering.com
9925 SW Nimbus Ave, Suite 110
Beaverton, OR 97008
(503) 213-2013
Joe Kurth, PE, Vice President/Director of Engineering

MECHANICAL / ELECTRICAL / PLUMBING ENGINEERS
CORBIN CONSULTING ENGINEERS
www.corbinengineering.com
1905 NW 169th PL, Suite 121
Beaverton, OR 97006
(503) 645-0176
Mike Machinski, Project Principal

CIVIL ENGINEER
CROW ENGINEERING
www.crowengineering.com
9925 SW Nimbus Ave, Suite 110
Beaverton, OR 97008
(503) 213-2013
Joe Kurth, PE, Vice President/Director of Engineering

LANDSCAPE ARCHITECT
SODERSTROM ARCHITECTS, LTD.
www.sdra.com
1200 NW Natio Parkway, Suite 410
Portland, OR 97209
(503) 228-5617
Fax. (503) 273-8584
Laurence Ferar, PLA

DEFERRED SUBMITTALS

REFER TO SPECIFICATION SECTION 01 3000 AND 01 4000 FOR BIDDER DESIGN REQUIREMENTS FOR BOTH AHJ REVIEW ITEMS AND NON-AHJ DEFFERRED ITEMS. SUBMITTAL DOCUMENTS FOR AHJ DEFERRED SUBMITAL ITEMS SHALL BE SUBMITED TO THE ARCHITECT OF RECORD BY THE GENERAL CONTRACTOR. ARCHITECT AND APPROPRIATE ENGINEER OF RECORD SHALL REVIEW AND RETURN. THE GENERAL CONTRACTOR SHALL THEN FORWARD AHJ SUBMITTAL ITEMS TO THE BUILDING OFFICAL FOR AHJ APPROVAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE AHJ DEFERRED SUBMITAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

AUTHORITY HAVING JURISDICTION (AHJ) DEFFERRED SUBMITTAL ITEMS:

A. PRECAST ARCHITECTURAL CONCRETE AND ATTACHMENTS, DIVISION 03
B. FIRE SPRINKLER SYSTEM, DIVISION 21
C. FIRE ALARM, DIVISION 28
D. STRUCTURAL ENGINEERING FOR MECHANICAL SYSTEM SEISMIC RESTRAINTS
E. STRUCTURAL ENGINEERING FOR OPEN WEB JOISTS, DIVISION 6
F. LANDSCAPE IRRIGATION DESIGN

SEE SPECIFICATION SECTION 01 4000 SUBMITTAL REQUIREMENTS FOR NON-AHJ BIDDER DESIGNED/ENGINEERED ITEMS.

SHEET INDEX

Soderstrom
Architects

1200 NW Naito Parkway, Suite 410
Portland, OR 97209

T 503-228-5617
F 503-227-8584

sdra.com

Project
Millersburg Fire
Station 15
3215 Transition Parkway NE
Albany, OR 97321

Consultant

Revisions

No.	Description	Date
1	Pre-Bid Revisions	2/3/21

Stamp

REGISTERED ARCHITECT
5209
JOHN D. VAN CALCAR
PORTLAND, OREGON
RENEWAL DATE
12-31-21
STATE OF OREGON

Issuance
CONFORM SET

Date
4/2/21

Project Number
20006

Drawing Title
PROJECT INFO

Sheet No
G1.01

DATE 4/2/2021 6:45:18 PM
FILE PATH:BIM 360://Millersburg Fire Station/Millersburg FS-CDs.rvt

PROJECT NOTES

1. CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE CITY OF ALBANY STANDARD CONSTRUCTION SPECIFICATIONS (AS ADOPTED BY THE CITY OF MILLERSBURG), THE PROJECT SPECIFICATIONS, CONSTRUCTIONS DRAWINGS, AND THESE SPECIAL PROVISIONS. IN SITUATIONS WHERE SPECIFICATION REQUIREMENTS DIFFER, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
2. THE CONSTRUCTION CONTRACT IS FOR THE CONSTRUCTION OF A COMPLETE AND FULLY FUNCTIONING INSTALLATION. THESE DOCUMENTS DESCRIBE THE DESIGN INTENT AND SPECIFIC REQUIREMENTS OF THE INSTALLATION. THESE DOCUMENTS DO NOT INTEND TO SHOW EVERY ITEM REQUIRED TO CONSTRUCT THE WORK. ITEMS SUCH AS FASTENERS, CONNECTORS, FILLERS, MISCELLANEOUS CLOSURE ELEMENTS, ANCILLARY CONTROL WIRING AND POWER WHERE REQUIRED FOR THE CONTROL OR OPERATION OF THE PROVIDED EQUIPMENT ARE NOT ALWAYS SHOWN BUT ARE CONSIDERED INCLUDED IN THE SCOPE OF THE WORK. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE A FULLY FUNCTIONING INSTALLATION WHICH MEETS THE DESIGN INTENT, INCLUDING THE SPECIFIC REQUIREMENTS INCLUDED IN THESE DOCUMENTS.
3. ALL ITEMS IN THESE DOCUMENTS ARE NEW UNLESS OTHERWISE NOTED.
4. THESE DOCUMENTS DESCRIBE A SINGLE CONSTRUCTION CONTRACT. THE USE OF SUBCONTRACTORS IS THE ELECTION OF THE CONTRACTOR. THESE DOCUMENTS DO NOT INTEND TO DIVIDE THE WORK AMONG THE CONTRACTOR'S SUBCONTRACTORS. WHERE THE DOCUMENTS IDENTIFY WORK WHICH IS "NOT IN MECHANICAL WORK" OR "NOT IN ELECTRICAL WORK" IT MEANS THAT WORK IS NOT FURTHER DESCRIBED OR SPECIFIED IN THE MECHANICAL OR ELECTRICAL DRAWINGS OR SPECIFICATIONS. IT DOES NOT PRECLUDE THE CONTRACTOR FROM DELEGATING THE WORK TO THE ENTITIES OF HIS ELECTION. IN ADDITION THE DIVISION OF THE CONTRACT DOCUMENTS INTO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER DESIGN DISCIPLINES NEITHER DIVIDES THE WORK FOR THOSE DISCIPLINES AS SHOWN ONLY IN THOSE DRAWINGS OR SPECIFICATIONS.
5. ITEMS INDICATED IN THIS SET NOTED "BY OWNER" ARE NOT IN THE CONTRACT (N.I.C.)
6. UNLESS OTHERWISE NOTED, IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND THE SUBCONTRACTORS TO REVIEW ALL DRAWINGS, PROJECT MANUAL, ADDENDA, ETC. IN ORDER TO ASSURE THE COORDINATION OF ALL WORK AFFECTING EACH TRADE. FAILURE TO REVIEW AND COORDINATE ALL CONTRACT DOCUMENTS BY THE GENERAL CONTRACTOR WITH ALL THE SUBCONTRACTORS FOR APPLICABLE ITEMS OF THE WORK SHALL NOT RELIVE THE RESPONSIBLE PARTY FROM PERFORMING ALL WORK SO REQUIRED AS PART OF THE CONTRACT.
7. UNLESS OTHERWISE NOTED, THE PROJECT MANUAL, WHICH INCLUDES THE GENERAL CONDITIONS, SUPPLEMENTAL CONDITIONS, AND TECHNICAL SPECIFICATIONS, AND THE DRAWINGS ARE COMPLEMENTARY AND TOGETHER DESCRIBE THE PROJECT REQUIREMENTS. WHERE THERE ARE DISCREPANCIES BETWEEN THE PROJECT MANUAL AND THE DRAWINGS, THE CONTRACTOR SHALL ADVISE THE ARCHITECT AND REQUEST A CLARIFICATION. THE ORDER OF PRECEDENCE BETWEEN THE DRAWINGS AND THE PROJECT MANUAL IS AS DEFINED IN THE PROJECT MANUAL.
8. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL LAYOUT AND SEQUENCE THE INSTALLATION OF THE WORK SO THAT THE DIFFERENT SYSTEMS DO NOT OBSTRUCT THE INSTALLATION OF SUCCESSIVE WORK. IN GENERAL, SYSTEMS INSTALLED FIRST SHOULD BE KEPT AS HIGH AND TIGHT TO STRUCTURE AS POSSIBLE TO LEAVE SPACE AVAILABLE FOR SYSTEMS WHICH FOLLOW.
9. REFER TO THE PROJECT MANUAL FOR SPECIFICATIONS, GENERAL INFORMATION, PRODUCTS AND EXECUTION REQUIREMENTS. REQUIREMENTS OF THE SPECIFICATIONS APPLY TO ALL ASPECTS OF THE WORK AND ARE INCLUDED AS ADDITIONAL INFORMATION FOR EACH ITEM SPECIFIED. IF DISCREPANCIES EXISTS BETWEEN THE SPECIFICATIONS AND DRAWINGS, THE MORE STRINGENT REQUIREMENTS SHALL PREVAIL. THE GENERAL CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVES OF ANY DISCREPANCIES.
10. THE DRAWINGS SHALL NOT BE SCALED. THE GENERAL CONTRACTOR SHALL REFER TO THE DIMENSIONS INDICATED OR THE ACTUAL SIZES OF CONSTRUCTION ITEMS. WHERE NO DIMENSIONS OR METHOD OF DETERMINING A LOCATION IS GIVEN, VERIFY CORRECT DIMENSIONS OR LOCATION WITH THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
11. THE DRAWINGS AND REFERENCED DETAILS HAVE BEEN DIMENSIONED IN ORDER TO ESTABLISH THE CONTROL AND GUIDELINES FOR FIELD LAYOUT. WHERE A DISCREPANCY EXISTS BETWEEN THE DRAWING AND THE DETAIL THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE FOR CLARIFICATION PRIOR TO INSTALLATION.
12. DIMENSIONS ARE TO FACE OF STUD UNLESS OTHERWISE NOTED.
13. WHERE DIMENSIONS ARE NOTED TO BE VERIFIED IN THE FIELD (VIF) THE DIMENSION SHOWN IS THE DESIGN BASIS, BUT MAY DIFFER FROM ACTUAL CONDITIONS. CONTRACTOR SHALL VERIFY THESE DIMENSIONS WHILE LAYING OUT THE WORK AND REPORT ANY DISCREPANCIES BETWEEN THE DESIGN BASIS AND ACTUAL DIMENSIONS TO THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK. WHERE DIMENSIONS ARE NOTED "+/-" FIELD DIMENSIONS MAY VARY FROM THE NOTED DIMENSIONS BY MINOR AMOUNTS. IF THE CONTRACTOR IDENTIFIES DIMENSIONS IN THE FIELD THAT DIFFER BY MORE THAN 1" FROM THE +/- DIMENSIONS INDICTED IN THE DRAWINGS, THE CONTRACTOR SHOULD CONFIRM DIFFERENTIAL WITH ARCHITECTS.
14. INTERIOR DETAILS ARE KEYED TO THE PLANS AT TYPICAL LOCATIONS. TYPICAL DETAILS APPLY TO ALL LOCATIONS WHICH ARE SIMILAR BUT ARE NOT OTHERWISE DETAILED. THE CONTRACTOR AND SUBCONTRACTORS ARE RESPONSIBLE TO COORDINATE THE LOCATION OF TYPICAL DETAILS AND INSTALL THE WORK INDICATED. IF DISCREPANCIES EXIST OR QUALIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE FOR CLARIFICATION PRIOR TO PROCEEDING.
15. INTERIOR FINISHES ARE KEYED TO THE DRAWINGS AT TYPICAL LOCATIONS. THE FINISHES APPLY TO ALL LOCATIONS WHICH ARE SIMILAR BUT ARE NOT OTHERWISE DETAILED. CONTRACTOR AND SUBCONTRACTORS ARE RESPONSIBLE TO COORDINATE THE LOCATION ALL TYPICAL DETAILS AND INSTALL THE WORK INDICATED. IF DISCREPANCIES EXIST OR QUALIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE FOR CLARIFICATION PRIOR TO PROCEEDING.
16. ABBREVIATIONS ON THIS SHEET APPLY TO THE ENTIRE SET UNLESS OTHERWISE NOTED.
17. WALL FIRE RATING INDICATIONS ON THE FLOOR PLANS SHOW EXTENT OF FIRE RATED PARTITION. FIRE RATING IN A PARTITION SHALL CONTINUE OVER DOOR OR WINDOW OPENING WHETHER OR NOT THEY APPEAR IN PLAN.
18. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO VERIFY SIZE AND INVERT ELEVATION OF OPENINGS / SLEEVES THROUGH CONCRETE AND MASONRY WALLS AND CONCRETE FOUNDATION WALLS. OPENINGS / SLEEVES ARE NOT LIMITED TO THOSE SHOWN ON STRUCTURAL DRAWING SHEETS.
19. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE AND MAKE PROVISIONS FOR ALL PIPE / CONDUIT SLEEVES THROUGH CONCRETE WALLS.
20. ELEVATIONS ARE TO TOP OF CONCRETE OR OTHER HARD SURFACE MATERIAL.
21. DETAILS ARE INTENDED TO SHOW METHOD AND MANNER OF ACCOMPLISHING THE WORK. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SHALL BE INCLUDED AS PART OF THE WORK.
22. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AT THE SITE BEFORE COMMENCING WORK AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO START OF THE WORK. IN CASE OF CONFLICT BETWEEN ARCHITECTURAL AND CONSULTANTS DRAWINGS, THE ARCHITECT WILL DETERMINE THE CORRECT INTENTION OF THE WORK.
23. THE BUILDING SHALL BE PROVIDED WITH A FULL SPRINKLER SYSTEM COMPLYING WITH APPLICABLE CODES OF THE AUTHORITY HAVING JURISDICTION.
24. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES, SYMBOLS, AND TYPICAL DETAILS. SPECIFIC NOTES ON DETAILS APPLY TO SIMILAR CONDITIONS UNLESS NOTED OTHERWISE (UNO / UON).
25. WHERE FIRE RATED OPENING PROTECTION IS REQUIRED, THE FIRE DOORS AND SMOKE AND DRAFT CONTROL ASSEMBLIES INSTALLED IN CORRIDOR OPENINGS SHALL BE TESTED AND LABELED IN ACCORDANCE WITH OSSC CURRENT EDITION SECTION 714. IN ACCORDANCE WITH THE REQUIREMENTS OF THE LISTED ASSEMBLY, THE MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE PROVIDED WITH EACH ASSEMBLY FOR INSTALLATION AND FOR REVIEW BY THE INSPECTION AUTHORITY.

ABBREVIATIONS

#	POUND OR NUMBER
A/C	AIR CONDITIONING
A/V	AUDIO VISUAL
AB	ANCHOR BOLT
AC	ASPHALTIC CONCRETE
ACM	ALUMINUM COMPOSITE METAL
ACT	ACOUSTICAL CEILING TILE
AD	AREA DRAIN
ADD	ADDENDUM
ADH	ADHESIVE
ADJ	ADJUSTABLE, ADJACENT
AFF	ABOVE FINISH FLOOR
AGG	AGGREGATE
AHJ	AUTHORITY HAVING JURISDICTION
AL(UM)	ALUMINUM
ALT	ALTERNATE
ANOD	ANODIZED
AP	ACCESS / ACOUSTIC PANEL
APPROX	APPROXIMATE
ARCH	ARCHITECT(URAL)
AUTO	AUTOMATIC
BATT	BATT INSULATION
BD	BOARD
BIT	BITUMINOUS
BLDG	BUILDING
BLKG	BLOCKING
BM	BENCH MARK
BO	BOTTOM OF
BOL	BOLLARD
BOT	BOTTOM
BR(N)Z	BRONZE
BSMT	BASEMENT
CAB	CABINET
CB	CATCH BASIN
CCTV	CLOSED CIRCUIT TV
CEM	CEMENT
CF	CUBIC FOOT
CG	CORNER GUARD
CI	CONTINUOUS INSULATION
CJ(T)	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR(ANCE)
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUE, CONTINUOUS
COORD	COORDINATE
CPT	CARPET
CRS	COURSE
CS	COUNTERSINK
CSMT	CASEMENT
CT	CERAMIC TILE
CTR	CENTER
CUST	CUSTODIAL
CX	CONNECTION
CY	CUBIC YARD
DEM(O)	DEMOLISH, DEMOLITION
DEP	DEPRESSED
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DISP	DISPENSER
DIV	DIVISION
DL	DEAD LOAD
DMT	DEMOUNTABLE
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DTL	DETAIL
DWG(S)	DRAWING(S)
DWR	DRAWER
E	EAST
EA	EACH
EB	EXPANSION BOLT
EJ	EXPANSION JOINT
EL, ELEV	ELEVATION
ELEC	ELECTRIC(AL)
EMER(G)	EMERGENCY
ENCL	ENCLOSE(URE)
EOS	EDGE OF SLAB
EP	ELECTRICAL PANEL BOARD
EPDM	ETHYLENE PROPYLENE DIENEMONOMER
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE
EXH	EXHAUST
EXIST/(E)	EXISTING
EXP	EXPOSED, EXPANSION
EXT	EXTERIOR
FA	FIRE ALARM
FAF	FLUID APPLIED FLOORING
FD	FLOOR DRAIN, FIRE DAMPER
FE(C)	FIRE EXTINGUISHER (CABINET)
FF	FINISH FLOOR
FFE	FURNISHINGS FIXTURES AND EQUIPMENT
FGL	FIBERGLASS
FHC	FIRE HOSE CABINET
FHMS	FLATHEAD MACHINE SCREW
FHWS	FLATHEAD WOOD SCREW
FIN	FINISH(ED)
FL	FLOOR
FLASHG	FLASHING
FLCO	FLOOR CLEANOUT
FLR	FLOOR(ING)
FLS	FIRE LIFE SAFETY
FLUOR	FLUORESCENT
FND(N)	FOUNDATION
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOS	FACE OF STEEL/STUD
FP	FIREPROOFING
FR	FRAME(D), FRAMING
FS	FULL SIZE, FLAME SPREAD
FT	FIRE TREATED
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR, GYPSUM BOARD
GL	GLASS, GLAZING, GRIDLINE
GWB	GYPSUM WALL BOARD
GYP (BD)	GYPSUM (BOARD)
HB	HOSE BIB
HBD	HARDBOARD
HC	HOLLOW CORE
HD	HEAVY DUTY
HDR	HEADER
HDW(R)	HARDWARE
HM	HOLLOW METAL
HOR(IZ)	HORIZONTAL
HR	HOUR
HT	HEIGHT
HTG	HEATING
HVAC	HEATING, VENTILLATION, AND AIR CONDITIONING
HWD	HARDWOOD
HWH	HOT WATER HEATER
ID	INSIDE DIAMETER
INCL	INCLUDE(D), INCLUDING
INS(UL)	INSULATE(D), INSULATION
INT	INTERIOR
JAN(T)	JANITOR
JC	JANITOR'S CLOSET
JT	JOINT
KO	KNOCK-OUT
LAM	LAMINATE(D)
LAV	LAVATORY
LH	LEFT HAND
LW	LIGHTWEIGHT
MAX	MAXIMUM
MB	MACHINE BOLT, MARKER BOARD
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURE(R)
MGR	MANAGER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MOD	MODULAR
MP	METAL PANEL
MRGB	MOISTURE RESISTANT GYPSUM WALL BOARD
MTL	METAL
MULL	MULLION
MWP	MEMBRANE WATERPROOFING
N	NORTH
NAT	NATURAL
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OPG	OPENING
OPP	OPPOSITE
OVHD	OVERHEAD
PAR	PARAPET
PERF	PERFORATE(D)
PJT	PANEL JOINT
PLAM	PLASTIC LAMINATE
PLAT	PLATFORM
PNL	PANEL
PNT	PAINT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED, POINT
PTD	PAINTED, PAPER TOWEL DISPENSER
PTL	PARTIAL
PTN	PARTION
PVC	POLYVINYL CHLORIDE
PWD	PLYWOOD
QT	QUARRY TILE
RA	RETURN AIR
RAD	RADIUS
RB	RESILIENT BASE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF(R)	REFER(ENCE), REFRIGERATOR
REINF	REINFORCE(D), REINFORCING
REQ(D)	REQUIRED
REV	REVISION(S), REVISED
RH	RIGHT HAND
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
S	SOUTH
SA	SUPPLY AIR
SAM	SELF-ADHERED MEMBRANE
SC	SOLID CORE
SCHED	SCHEDULE
SEC(T)	SECTION
SIM	SIMILAR
SL	SLEEVE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUPP	SUPPLEMENT, SUPPLY
SUSP	SUSPENDED
SV	SHEET VINYL
TB, TCKBD	TACKBOARD
TEL	TELEPHONE
TEMP	TEMPERED, TEMPERATURE
TG, T&G	TONGUE AND GROOVE
TO	TOP OF
TOC	TOP OF CURB, TOP OF CONCRETE
TOF	TOP OF FRAMING
TOP	TOP OF PARAPET
TOPL	TOP OF PLATE
TOR	TOP OF ROOF
TOS	TOP OF STEEL
TOW	TOP OF WALL
TS	TUBE STEEL
TYP	TYPICAL
U/C	UNDERCOUNTER
UON, UNO	UNLESS NOTED OTHERWISE
VB	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VFY	VERIFY
VIF	VERIFY IN FIELD
W	WEST
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WP	WATERPROOF(ING)
WS	WATERSTOP
WWF	WELDED WIRE FABRIC
XPS	EXTRUDED POLYSTYRENE
YD	YARD
±	PLUS OR MINUS
ø	DIAMETER

SYMBOLS LEGEND

BUILDING SECTION MARK
1=SECTION NO.
A101= SHEET NO.

WALL SECTION MARK
1=SECTION NO.
A101= SHEET NO.

EXTERIOR ELEVATION MARK
1=SECTION NO.
A101= SHEET NO.

INTERIOR ELEVATION MARK FILLED
1=SECTION NO.
A101= SHEET NO.

DETAIL SECTION MARK
1=SECTION NO.
A101= SHEET NO.

ENLARGED VIEW MARK
1=SECTION NO.
A101= SHEET NO.

PARTITION MARK
(REF. PARTITION TYPES)

DOOR TAG

INTERIOR WINDOW MARK

EXTERIOR WINDOW MARK

NORTH ARROW

LEVEL MARK

GRID HEAD

KEYNOTE - REFER TO LEGEND ON SHEET

REVISION CLOUD AND MARK

CONTROL JOINT

GRAPHIC SCALE

MATCHLINE

ALIGN DISCONTINOUS PLANES

CASEWORK TAG (INTERIOR ELEVATIONS)

MATERIALS LEGEND

- BRICK (PLAN/SECTION)
- BRICK (ELEVATION)
- STUCCO
- RIGID INSULATION
- SPRAY INSULATION
- CONCRETE MASONRY
- CONCRETE
- UNDISTURBED EARTH
- DISTURBED EARTH
- STEEL
- GYPSUM BOARD
- DRAINAGE FILL
- PLYWOOD
- BLANKET OR LOOSE FILL INSULATION

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Consultant

Revisions

No.	Description	Date

Stamp

REGISTERED ARCHITECT
5209
JOHN D. VAN CALCAR
PORTLAND, OREGON
RENEWAL DATE
12-31-21
STATE OF OREGON

Issuance
CONFORM SET

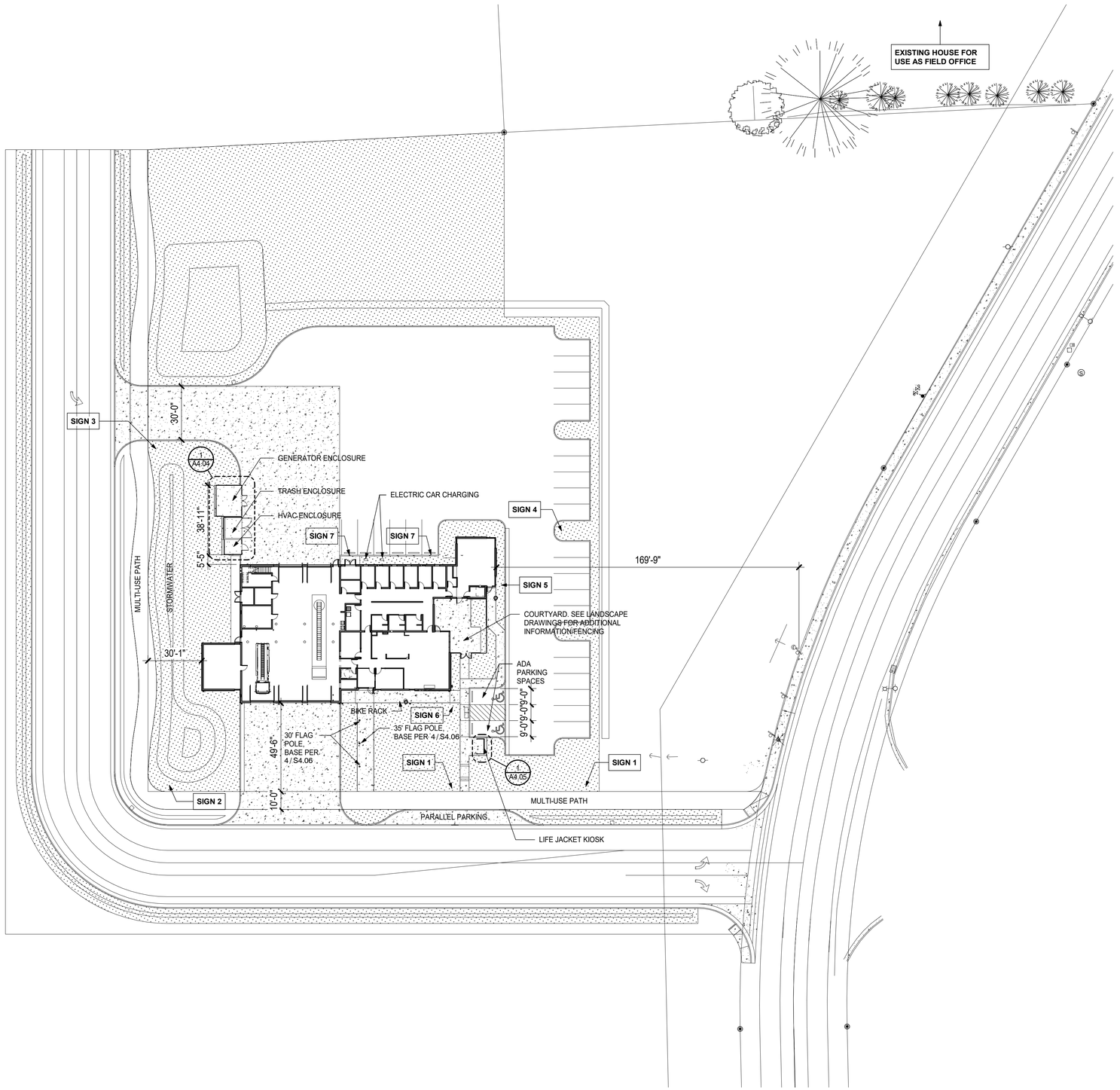
Date
4/2/21

Project Number
20006

Drawing Title
NOTES, SYMBOLS, LEGENDS, AND ABBREVIATIONS

Sheet No
G2.01

DATE 4/2/2021 6:45:19 PM
FILE PATH\BIM 360:/Millersburg Fire Station/Millersburg FS-CDs.rvt



1 OVERALL SITE PLAN

1/32" = 1'-0"

SHEET NOTES

1. ARCHITECTURAL SITE PLAN SHOWN FOR REFERENCE ONLY. REFER TO CIVIL AND LANDSCAPE DRAWINGS FOR SPECIFIC SITE INFORMATION.
2. SEE SHEET A8.50 FOR SIGNAGE DETAILS

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CITY OF Millersburg — A COMMUNITY LINKING AGRICULTURE AND INDUSTRY

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Revisions

No.	Description	Date
2	Addendum #2	3/2/21

Stamp

REGISTERED ARCHITECT 5209 JOHN D. VAN CALCAR PORTLAND OREGON RENEWAL DATE 12-31-21 STATE OF OREGON

Issuance

CONFORM SET

Date

4/2/21

Project Number

20006

Drawing Title

ARCHITECTURAL SITE PLAN

Sheet No

A1.01

DATE 4/2/2021 6:43:45 PM
FILE PATH:BIM 360:/Millersburg Fire Station/Millersburg FS-CDs.rvt

GENERAL CIVIL NOTES:

1. ALL WORK & MATERIALS SHALL CONFORM TO THE 2017 OREGON PLUMBING SPECIALTY CODE & ALL APPLICABLE STATE, CITY, AND COUNTY REGULATIONS AND STANDARDS. CONTACT ENGINEER FOR DIRECTIVE IN THE EVENT OF CONFLICTING STANDARDS.
2. CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE CITY OF ALBANY STANDARD CONSTRUCTION SPECIFICATIONS (AS ADOPTED BY THE CITY OF MILLERSBURG), THE PROJECT SPECIFICATIONS, CONSTRUCTIONS DRAWINGS, AND THESE SPECIAL PROVISIONS. IN SITUATIONS WHERE SPECIFICATION REQUIREMENTS DIFFER, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
3. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE COORDINATED WITH THE GOVERNING AGENCY'S INSPECTOR AND SHALL CONFORM TO THAT AGENCY'S CURRENT ENGINEERING STANDARD SPECIFICATIONS & DETAILS.
4. THE GENERAL CONTRACTOR AND ALL THEIR AFFILIATES SHALL VERIFY ALL DIMENSIONS, ELEVATIONS & LOCATIONS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
5. EXISTING SITE SURVEY PROVIDED BY S&F LAND SERVICES, DATED MAY 7, 2020. ELEVATIONS ARE BASED ON NGVD GPS TIES TO LINN COUNTY SURVEY BENCHMARKS 93192, 93014, AND 93012. HORIZONTAL DATUM BASED IN THE OREGON NORTH STATE PLAN COORDINATE SYSTEM NAD 83 (2011).
6. ALL GRADE SURVEYING AND HORIZONTAL LAYOUT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR & SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR. COORDINATE WITH ENGINEER PRIOR TO CONSTRUCTION.
7. ALL EXISTING SITE UTILITIES IDENTIFIED ON THIS PLAN ARE NOT INTENDED TO BE EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY ALL UTILITIES AND PROTECT AS REQUIRED DURING THE COURSE OF CONSTRUCTION.
8. CONTRACTOR SHALL NOTIFY ALL APPLICABLE REGULATORY AGENCIES AND UTILITY COMPANIES 48 hrs PRIOR TO BEGINNING WORK.
9. ALL SITE EXCAVATION, TRENCH BACK FILL, PARKING LOT SUB-GRADE, FLAT WORK SUB-GRADE, COMPACTION REQUIREMENTS, ETC. SHALL BE AS NOTED IN THE SITE PREPARATION NOTES AND/OR THE GEOTECHNICAL REPORT.
10. ALL NON-DRIVEABLE SITE CONCRETE SHALL BE f'c = 3500 psi @ 28 DAYS, 6% ENTRAINED AIR, 4" SLUMP (U.N.O.). ALL DRIVEABLE SITE CONCRETE AND CONCRETE WITHIN THE PUBLIC R.O.W. SHALL BE f'c = 4000 psi PER THE CITY OF ALBANY STANDARD CONSTRUCTION SPECS.
11. ALL UTILITY SERVICES SHALL BE INSTALLED PER THE RESPECTIVE UTILITY CODES & STANDARDS.
12. WATER MAINS WITHIN THE PUBLIC R.O.W. SHALL HAVE A MINIMUM COVER OF 36". ALL OTHER UTILITIES SHALL HAVE A MINIMUM COVER OF 30" UNLESS OTHERWISE SPECIFIED.
13. ALL SERVICES SHALL BE ADEQUATELY MARKED AS REQ'D AS TO IDENTIFY THE SIZE, TYPE, & DEPTH OF THE SERVICE.
14. ALL SERVICES SHALL BE PLUGGED AS REQ'D TO ADEQUATELY ENSURE THAT NO FOREIGN MATERIALS ENTER THE LINE.
15. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH THE SIZE, TYPE, DEPTH OF MAIN, TYPE OF CONNECTION AT MAIN, INSTALLATION DATE, LOCATION & SKETCH OF ALL UTILITY SERVICE INSTALLATIONS.
16. CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS PRIOR TO CONSTRUCTION.
17. ALL FIRE WATER LINES SHALL BE CLASS 52 DUCTILE IRON PIPE AND ALL DOMESTIC WATER LINES SHALL BE PVC WATER PIPE CONFORMING TO ASTM D 1785 WITH SOLVENT-CEMENTED JOINTS.
18. ALL SANITARY SEWER WASTE LINES SHOWN OUTSIDE THE BUILDING SHALL BE PVC SEWER PIPE CONFORMING TO ASTM D 3034 - SDR 35 WITH GASKET JOINTS. SEE MECHANICAL PLANS FOR ALL PIPING REQUIREMENTS WITHIN 5' OF STRUCTURES.
19. SANITARY LINES SHALL BE REQ'D TO PASS A LOW PRESSURE AIR TEST OR WATER TEST CONFORMING TO PLUMBING CODE SPECIFICATIONS PRIOR TO FINAL ACCEPTANCE. ALL PARTS OF THE SYSTEM SHALL BE CLEANED PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR SHALL NOT ALLOW ANY FOREIGN MATERIAL TO ENTER THE EXISTING SYSTEM. THE CONTRACTOR SHALL PROVIDE THE REQ'D PERSONNEL AND MATERIAL TO PERFORM THE ABOVE TESTS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH DOCUMENTATION OF THE ABOVE TESTS.
20. STORM COLLECTION SYSTEM DESIGNED FOR WATER TIGHT COMPONENTS.
21. ALL STORM PIPE IDENTIFIED AS 'PVC' SHALL BE ASTM D 3034 - SDR 35. ALL ON-SITE STORM PIPE IDENTIFIED AS 'HDPE' SHALL BE HANCOR SURE-LOK F477 -OR- ADVANCED DRAINAGE SYSTEMS N-12. SEE PLAN SET FOR ADDITIONAL INFORMATION.
22. ALL STORM COLLECTION SYSTEM CONNECTIONS AND COMPONENTS SHALL CONFORM TO PIPE MANUFACTURER REQUIREMENTS. GC TO COORDINATE STORM SYSTEM LAYOUT W/ ENGINEER AND STORM SYSTEM SUPPLIER. STORM SYSTEM COMPONENT SHOP DRAWINGS SHALL BE PROVIDED FOR ENGINEER'S REVIEW PRIOR TO CONSTRUCTION.
23. ALL ON SITE CATCH BASINS SHALL BE AS IDENTIFIED ON PLAN SET. ALL ON-SITE STORM SYSTEM CATCH BASINS SHALL BE PROVIDED WITH A MINIMUM 24" SETTLEMENT SUMP BELOW THE LOWEST PIPE INVERT (U.N.O.) AND A POLLUTION CONTROL HOOD AND TRAP SYSTEM.SEE PLAN SET FOR ADDITIONAL INFORMATION. CURB INLETS IN ROW PER STANDARD SPECS.
24. GC SHALL PROVIDE ENGINEER WITH SHOP DRAWING SUBMITTALS ON ALL PRE-CAST MANUFACTURED ITEMS.
25. ALL UNDERGROUND PIPING, CONDUIT AND OTHER UTILITIES SHALL BE BEDDED PER CITY OF ALBANY STANDARD DETAILS (OR AS OTHERWISE SPECIFIED BY PIPE MANUFACTURER). NOTIFY ENGINEER IN EVENT OF DISCREPANCIES.
26. ALL TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC SHALL BE BY THE CONTRACTOR AND CONFORM WITH BOTH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE ODOT MANUAL ON SHORT TERM TRAFFIC CONTROL
27. ALL LANDSCAPED AREAS SHALL BE AS NOTED ON THE LANDSCAPE PLANS. THE ENGINEER SHALL INSPECT ALL LANDSCAPE PLANTER GRADES PRIOR TO RECEIVING FINAL SURFACE TREATMENT.

SITE PREPARATION NOTES:

CLEARING & GRUBBING -

1. REFER TO STRUCTURAL (FOUNDATION) PLANS FOR SPECIFIC SOIL EXCAVATION & BACKFILL REQUIREMENTS WITHIN BUILDING FOOTPRINT(S).
2. ALL AREAS BELOW ROADWAYS, PARKING AND WALKWAYS SHALL BE CLEARED AND GRUBBED OF ALL PAVEMENT, FOREIGN MATTER, DEBRIS, ORGANIC AND DISTURBED MATERIAL, U.N.O. STRIPPING DEPTHS ACROSS THE SITE WILL VARY DEPENDING ON LOCATION AND PAVEMENT SECTION REQUIREMENTS. ALL EXPOSED MATERIAL SHALL BE MOISTURE CONDITIONED TO WITHIN 2% OF OPTIMUM.
3. ALL CLEARED AND GRUBBED MATERIAL SHALL BE REMOVED FROM SITE. GC SHALL COORDINATE AN APPROVED DISPOSAL LOCATION.
4. ALL AREAS WITH ABANDONED UTILITY LINES, STORM DRAINS, UNDERGROUND TANKS, ETC. WHICH PROVIDE VOID SPACE BENEATH THE SURFACE SHALL BE LOCATED AND REMOVED PRIOR TO SITE GRADING.
5. ALL HOLES, DEPRESSIONS, AND UNDISTURBED NATIVE MATERIAL SHALL BE CLEARED OF ALL LOOSE AND ORGANIC MATERIAL THEN BACKFILLED AND COMPACTED WITH APPROVED STRUCTURAL FILL.
6. AFTER CLEARING THE ABOVE MENTIONED AREAS, ALL EXPOSED SUB-GRADE SHALL BE PROOF ROLLED WITH A DUMP TRUCK FULLY LOADED WITH ROCK. SOILS SHALL BE REMOVED AND RE-COMPACTED OR REPLACED WITH IMPORTED APPROVED STRUCTURAL FILL IF THEY DO NOT DEMONSTRATE A FIRM, UNYIELDING CONDITION. GEOTECHNICAL ENGINEER SHALL APPROVE SUB-GRADE SURFACE PRIOR TO STRUCTURAL FILL IMPORT EXPLAINED BELOW.

STRUCTURAL FILL PLACEMENT & COMPACTION -

7. APPROVED STRUCTURAL FILL SHALL BE PLACED BENEATH AREAS RECEIVING ASPHALT AND/OR CONCRETE PAVEMENT.
8. STRUCTURAL FILL SHALL BE APPROVED BY GEOTECHNICAL ENGINEER PER THE REPORT RECOMMENDATIONS AND CITY OF MILLERSBURG SPECIFICATIONS. ALL FILL SHALL BE FREE OF ORGANIC AND EXPANSIVE CLAY MATERIAL.
9. PLACEMENT LIFTS TO BE DETERMINED BY GEOTECHNICAL ENGINEER BASED ON MATERIAL PROPERTIES OF STRUCTURAL FILL CHOSEN AND TYPE OF COMPACTION EQUIPMENT USED. BASE ROCK PLACEMENT LIFTS SHALL NOT EXCEED 8". EACH LIFT SHALL BE NEARLY EQUAL IN THICKNESS AND COMPACTED TO A MINIMUM OF 95% OF ASTM D 1557. FILLS SHALL BE PLACED AT OR SLIGHTLY ABOVE THEIR OPTIMUM MOISTURE CONTENT.
10. ALL UTILITY TRENCH BACK FILL SHALL CONFORM TO CURRENT JURISDICTIONAL PUBLIC WORKS SPECIFICATIONS FOR CONSTRUCTION AND THE PROJECT GEOTECHNICAL INVESTIGATION REPORT. CONTACT CIVIL ENGINEER OF RECORD IN THE EVENT OF A CONFLICT.
11. IN ADDITION TO THE ABOVE, ALL SITE PREPARATION AND SUBSURFACE WORK SHALL CONFORM TO THE PROJECT GEOTECHNICAL INVESTIGATION REPORT AS PREPARED BY PBS ENGINEERING AND ENVIRONMENTAL, INC.

EROSION CONTROL NOTE:

THE 1200C PLAN SHEETS FOR THIS SITE CONTAIN AN EROSION AND SEDIMENT CONTROL PLAN THAT MUST BE IMPLEMENTED AT THE START OF THIS PROJECT. THE INFORMATION CONTAINED WITHIN THE REFERENCED PLAN SHEETS SHALL BE CONSIDERED A MINIMUM AND SHALL BE MODIFIED AS REQUIRED BY THE CONTRACTOR & CITY INSPECTOR, TO CONTAIN ALL SEDIMENT ON SITE. SPECIAL ATTENTION SHALL BE TAKEN AT ALL EXISTING STORM DRAIN CATCH BASINS AND STORM DRAIN CHANNELS AS TO ELIMINATE ANY SEDIMENT TRANSFER INTO THE EXISTING STORM DRAIN SYSTEM.

AN ALL WEATHER ROCK SURFACE SHALL BE PROVIDED AT ALL CONSTRUCTION SITE ENTRANCES. GC MAY ELECT TO USE (E) GRAVEL PAVING, AC PAVING, ETC. (IF ACCEPTABLE TO CITY INSPECTOR). ALL CONSTRUCTION SHALL BE MAINTAINED WITHIN THE DEVELOPMENT LIMITS OF THIS PHASE. REFER TO EROSION CONTROL SHEET FOR ADDITIONAL INFORMATION.

UTILITY STATEMENT:

EXISTING UNDERGROUND UTILITIES ILLUSTRATED IN THESE PLANS HAVE BEEN LOCATED BY A UTILITY LOCATE COMPANY. LAYOUT INDICATED IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. ALL LINES WITHIN PROJECTED WORK ZONE SHALL BE FIELD VERIFIED AS REQ'D PRIOR TO CONSTRUCTION.

ABBREVIATIONS:

AC	ASPHALT
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ASTM	AMERICAN STANDARD TEST METHOD
BOC	BOTTOM OF CURB
BOS	BOTTOM OF STAIR
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
DWG	DRAWING
(E)	EXISTING
EG	EXISTING GRADE
FG	FINISHED GRADE
GC	GENERAL CONTRACTOR
GRD	GROUND
GRVL	GRAVEL
HDPE	HIGH-DENSITY POLYETHYLENE
IE	INVERT ELEVATION
MAX	MAXIMUM
MIN	MINIMUM
NGVD	NORTH GEODETIC VERTICAL DATUM
REQD	REQUIRED
ROW	RIGHT-OF-WAY
STD	STANDARD
T/base	TOP OF BASEROCK LAYER
T/sub	TOP OF SUBGRADE LAYER
TBC	TOP BACK OF CURB
TOS	TOP OF STAIR
TYP	TYPICAL

MASTER CIVIL LEGEND:

LEGENDS ON INDIVIDUAL SHEETS GOVERN OVER THE ITEMS IN THE LEGEND LISTED BELOW

DEMO	EXISTING	NEW	
			CONCRETE
			DEFERRED PAVING
			GRAVEL PAVING
			HMAC PAVING - STANDARD
			HMAC PAVING - HEAVY
			LANDSCAPING
			RIP RAP
			STORMWATER POND
			CONVEYANCE SWALE
			EASEMENT - PER PLAN
	X	X	FENCING
			FIBER
	UTL	UTL	DATA, LOW VOLTAGE
			GRADE BREAK
			IRRIGATION
	G	GAS	NATURAL GAS / PROPANE
	P	P	POWER - BURIED
		OHP	POWER - OVERHEAD
			PROPERTY LINE
		SS	SANITARY SEWER - GRAVITY
		FD	STORM FOUNDATION DRAIN
	D		STORM SEWER - PRIVATE
			STORM SEWER - PRIVATE HIDDEN
		SD	STORM SEWER - PUBLIC
	415	415	SURFACE CONTOUR - MAJOR (5 FT)
	411	411	SURFACE CONTOUR - MINOR (1 FT)
			TELEPHONE - BURIED
		W	WATER - POTABLE
		FW	WATER - FIRE
		8C 100.00	GRADE SPOT ELEVATION
			CONTROL MAGNAIL/PK NAIL
			CATCH BASIN
			BEEHIVE OVERFLOW
			ATRIUM DRAIN
			ROOF DRAIN CONNECTION POINT
			STORM DRAIN CLEANOUT
		SD	STORM DRAIN MANHOLE
			SANITARY SEWER CLEANOUT
		SS	SANITARY SEWER MANHOLE
			FIRE DEPARTMENT CONNECTION
			HYDRANT
			WATER VALVE
			WATER METER
			POWER POLE
			GUY WIRE
			POWER POLE WITH LIGHT
			POWER VAULT
			ON-SITE LIGHTING
			NATURAL GAS MARKER
			GAS VALVE
			GAS METER
		T	PHONE MANHOLE
			PHONE RISER
			BOLLARD PROTECTION
			CONCRETE CURB STOP
			DECIDUOUS TREE
			CONIFEROUS TREE
			SIGN (SHAPE VARIES)
			HANDICAP PARKING SYMBOL
			DIRECTIONAL ARROWS

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1	Pre-Bid Revisions	2/3/21

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GENERAL NOTES

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C0.10

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NOTES

1. CLEARING AND GRUBBING SHALL BE DONE PER NOTES ON C0.10.
2. SEE SEPARATE 1200C PLANS FOR ADDITIONAL EROSION CONTROL MEASURES AND IMPLEMENTATION.

SITE LEGEND

- GRAVEL CONSTRUCTION ENTRANCE
- LIMITS OF DEMOLITION/SAWCUT

KEYNOTES

1. REMOVE EXISTING SIDEWALK
2. REMOVE EXISTING GAURDRAIL
3. REMOVE EXISTING FENCING
4. REMOVE EXISTING TREE
5. SAWCUT AND REMOVE EXISTING PAVEMENT
6. REMOVE EXISTING CURB AND GUTTER
7. EROSION CONTROL SILT FENCE
8. CONSTRUCTION ENTRANCE
9. PROTECT EXISTING SIGN
10. PROTECT EXISTING STORM INLET
11. PROTECT EXISTING POLE AND GUY WIRES

NORTH

1 EXISTING CONDITIONS PLAN

1" = 30'

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20335

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EXISTING CONDITIONS AND DEMOLITION PLAN

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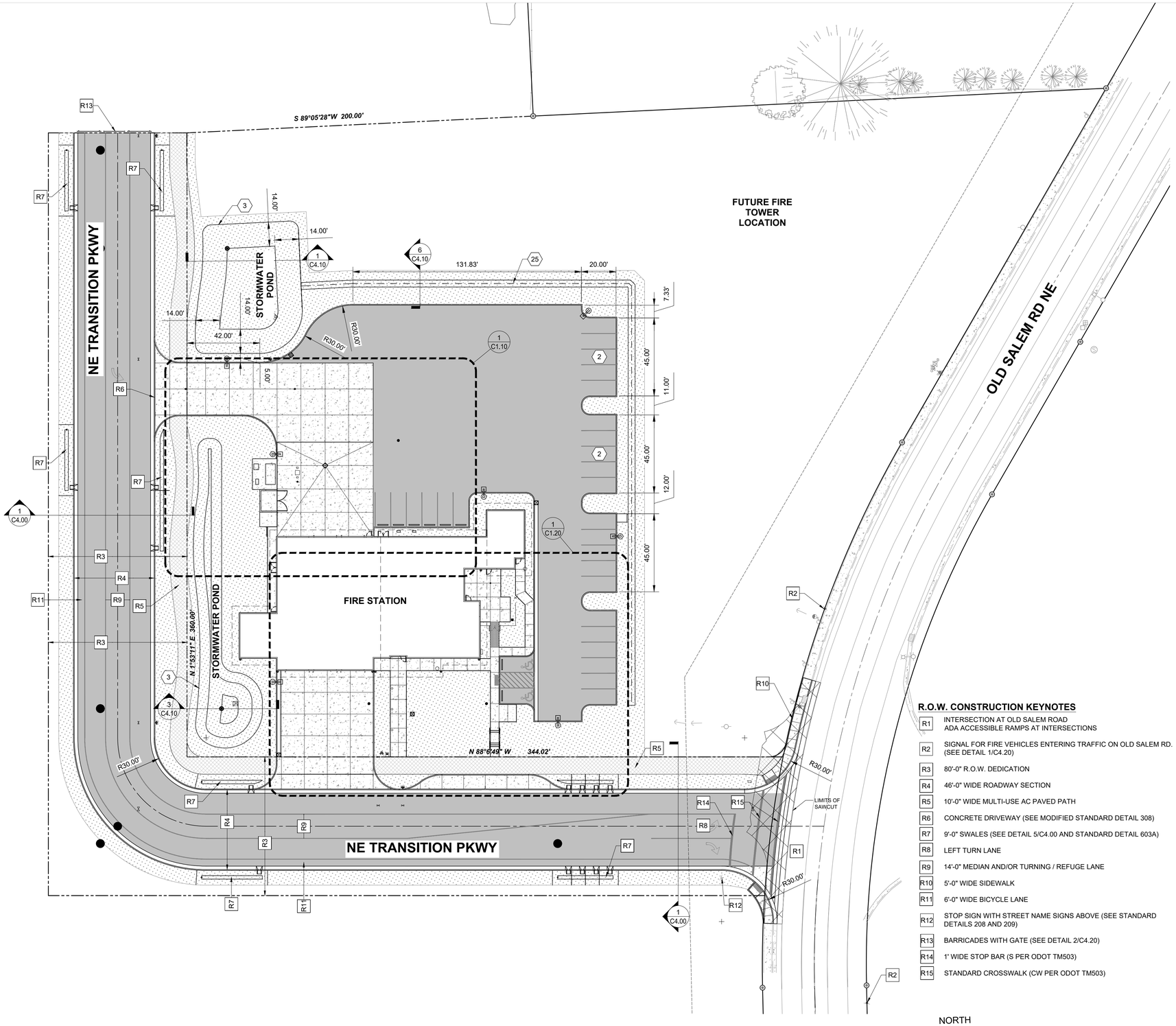

1 SITE PLAN
1" = 30'

NORTH

GENERAL SITE INFORMATION

ITEM	DESCRIPTION
LOCATION	OLD SALEM ROAD - MILLERSBURG, OR
LEGAL DESCRIPTION	T 10 S R 03 W SEC 28
PROPERTY ID	
ZONING	PF (PUBLIC FACILITIES ZONE)
LOT SIZE	3.59 ac (PROPERTY LOT)
IMPERVIOUS AREA	47,852 sf
PERVIOUS AREA	108,613 sf

GENERAL BUILDING INFORMATION

BUILDING	SIZE	HEIGHT
STATION 15	9,935 SQFT	±22'-0"

PARKING REQUIREMENTS

EMPLOYEES PER SHIFT			6
TOTAL EMPLOYEES AT SHIFT CHANGE			12
PARKING REQUIREMENTS PER MILLERSBURG DEVELOPMENT CODE CH. 3.03			
VEHICLE SPACES	MIN. REQUIRED	RATIO	REQUIRED
MUNICIPAL / GOVERNMENT	1 SP PER 2 EMPLOYEES + 1 SPACE PER 800 SQFT	12 EMPLOYEES	19
TOTAL REQUIRED			19
TOTAL PROVIDED			29
BICYCLE STALL	MIN. REQUIRED	RATIO	REQUIRED
	1 PER 20 VEHICLE SPACES		1
TOTAL REQUIRED			1
TOTAL PROVIDED			1

NOTES

1. ALL PARKING LOT CURB RETURNS SHALL HAVE A 5'-0" RADIUS UNLESS NOTED OTEHRWISE.

SITE LEGEND

- CONCRETE PAVING - SEE DETAIL 3/C4.00
- HMAC PAVING - SEE DETAIL 4/C4.00
- HMAC PAVING - HEAVY - SEE DETAIL 2/C4.00
- LANDSCAPING - SEE LANDSCAPING PLANS
- RIP-RAP - SEE DETAIL 7/C4.00

R.O.W. CONSTRUCTION KEYNOTES

- R1 INTERSECTION AT OLD SALEM ROAD ADA ACCESSIBLE RAMPS AT INTERSECTIONS
- R2 SIGNAL FOR FIRE VEHICLES ENTERING TRAFFIC ON OLD SALEM RD. (SEE DETAIL 1/C4.20)
- R3 80'-0" R.O.W. DEDICATION
- R4 46'-0" WIDE ROADWAY SECTION
- R5 10'-0" WIDE MULTI-USE AC PAVED PATH
- R6 CONCRETE DRIVEWAY (SEE MODIFIED STANDARD DETAIL 308)
- R7 9'-0" SWALES (SEE DETAIL 5/C4.00 AND STANDARD DETAIL 603A)
- R8 LEFT TURN LANE
- R9 14'-0" MEDIAN AND/OR TURNING / REFUGE LANE
- R10 5'-0" WIDE SIDEWALK
- R11 6'-0" WIDE BICYCLE LANE
- R12 STOP SIGN WITH STREET NAME SIGNS ABOVE (SEE STANDARD DETAILS 208 AND 209)
- R13 BARRICADES WITH GATE (SEE DETAIL 2/C4.20)
- R14 1' WIDE STOP BAR (S PER ODOT TM503)
- R15 STANDARD CROSSWALK (CW PER ODOT TM503)

SITE KEYNOTES

1. FIRE STATION BUILDING, (SEE ARCH PLANS)
2. EMPLOYEE AND COMMUNITY VISITOR PARKING AREA
3. STORMWATER POND (SEE GRADING AND LANDSCAPING PLANS)
4. ONSITE SIDEWALK (SEE DETAIL 4/C4.10)
5. TRASH ENCLOSURE (SEE ARCH PLANS)
6. NOT USED
7. 4" WHITE PAVEMENT STRIPING
8. EV CHARGING PEDESTAL (SEE ELECTRICAL PLANS)
9. FLAG POLES (SEE ARCH AND LANDSCAPING PLANS)
10. GENERATOR AND CONCRETE PAD (SEE ELECTRICAL PLANS)
11. LIFE JACKET STORAGE AREA (SEE ARCH AND LANDSCAPING PLANS)
12. 6"x6'-0 CURBSTOP (TYP.)
13. MECHANICAL PAD (SEE ARCH AND MECH PLANS)
14. PARKING SIGN (TYP.) (SEE ARCH PLANS)
15. UNDERGROUND OIL/WATER SEPARATOR (SEE PLUMBING PLANS)
16. WASH AREA CATCH BASIN (SEE C3.00)
17. STRAIGHT CURB (SEE STANDARD DETAIL 304)
18. MULTI-USE PATH (SEE DETAIL 5/C4.00)
19. PATIO AND FENCE (SEE ARCH AND LANDSCAPING PLANS)
20. TYPICAL CURB AND GUTTER WITH DEPRESSED CURB (SEE STANDARD DETAIL 304)
21. DETECTABLE WARNING (SEE ODOT STANDARD DETAIL RD902)
22. ADA PARKING SIGN AND STRIPING (SEE DETAIL 6/C4.10)
23. TYPICAL CURB AND GUTTER (SEE STANDARD DETAIL 304)
24. STEPS AND HANDRAILS (SEE STANDARD DETAILS RD120, RD770, RD771)
25. CONVEYANCE SWALE (SEE DETAIL 6/C4.10)

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SITE PLAN

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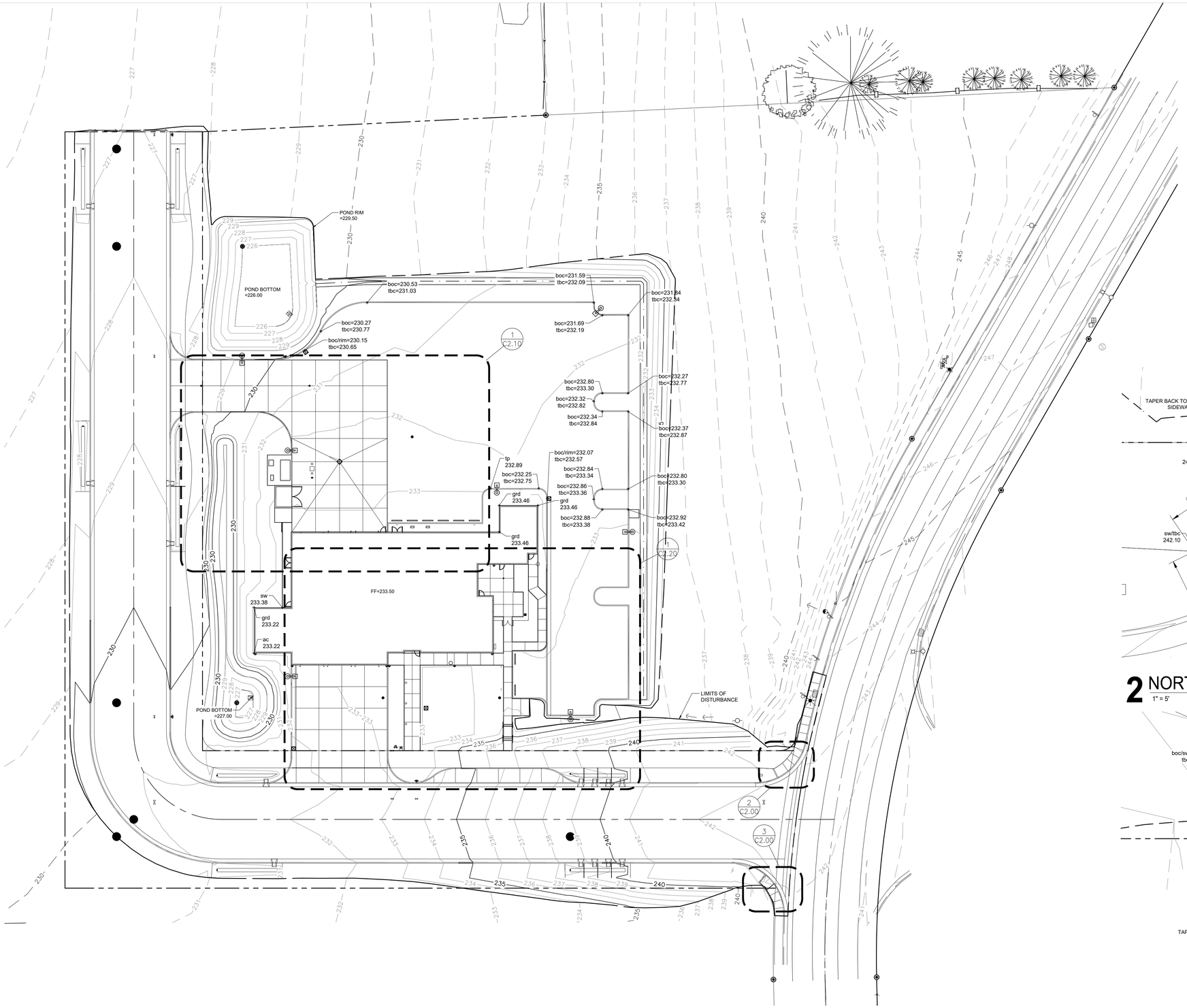


1 GRADING PLAN

1" = 30'

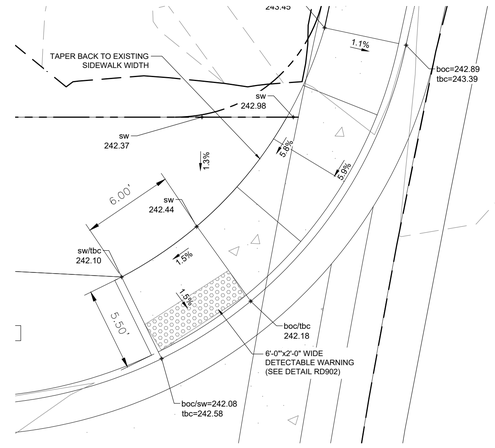
NORTH

GRADING GENERAL NOTES:

1. REFER TO GEOTECHNICAL REPORT PREPARED BY PBS ENGINEERING AND ENVIRONMENTAL, INC AND DATED 8/26/2020 FOR REQUIRED SPECIFICATIONS REGARDING ALL GRADING AND SUBGRADE PREPARATION UNDER ALL ASPHALT, CONCRETE, AND BUILDING PADS
2. GROUND SURFACE WITHIN THE LIMITS OF PROPOSED IMPROVEMENTS SHOULD BE STRIPPED OF ALL ORGANIC MATERIAL AND REMOVED FROM SITE, TOP LAYER OF THIS MATERIAL SHALL BE RETAINED FOR LANDSCAPING AREAS
3. ALL CONTOURS SHOWN IN EXISTING SURVEY AND NEW DEVELOPMENT ARE AT 1 FT INTERVALS
4. EXCAVATION FOR ALL SITE UTILITIES INCLUDING STORM, SEWER, WATER AND POWER NOT SHOWN. SEE UTILITY PLAN AND GEOTECHINCAL REPORT FOR UTILITY TRENCHING AND BEDDING REQUIREMENTS FOR ALL UTILITIES

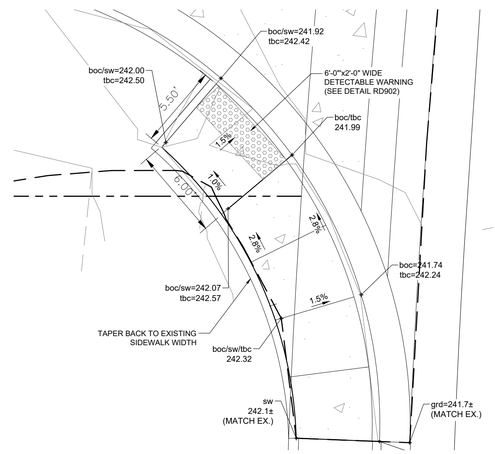
LEGEND

350	EXISTING GRADE MAJOR CONTOURS (10 FT INTERVALS)
352	EXISTING GRADE MINOR CONTOURS (2 FT INTERVALS)
350	FINISHED GRADE MAJOR CONTOURS (10 FT INTERVALS)
352	FINISHED GRADE MINOR CONTOURS (2 FT INTERVALS)
+ xx 2XX.XX	DESCRIPTION (SEE ABBREVIATION LIST) SPOT ELEVATION
+ boc=2XX.XX tbc=2XX.XX	BOTTOM OF CURB SPOT ELEVATION TOP BACK OF CURB SPOT ELEVATION



2 NORTH ADA RAMP ENLARGEMENT

1" = 5'



3 SOUTH ADA RAMP ENLARGEMENT

1" = 5'

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GRADING PLAN

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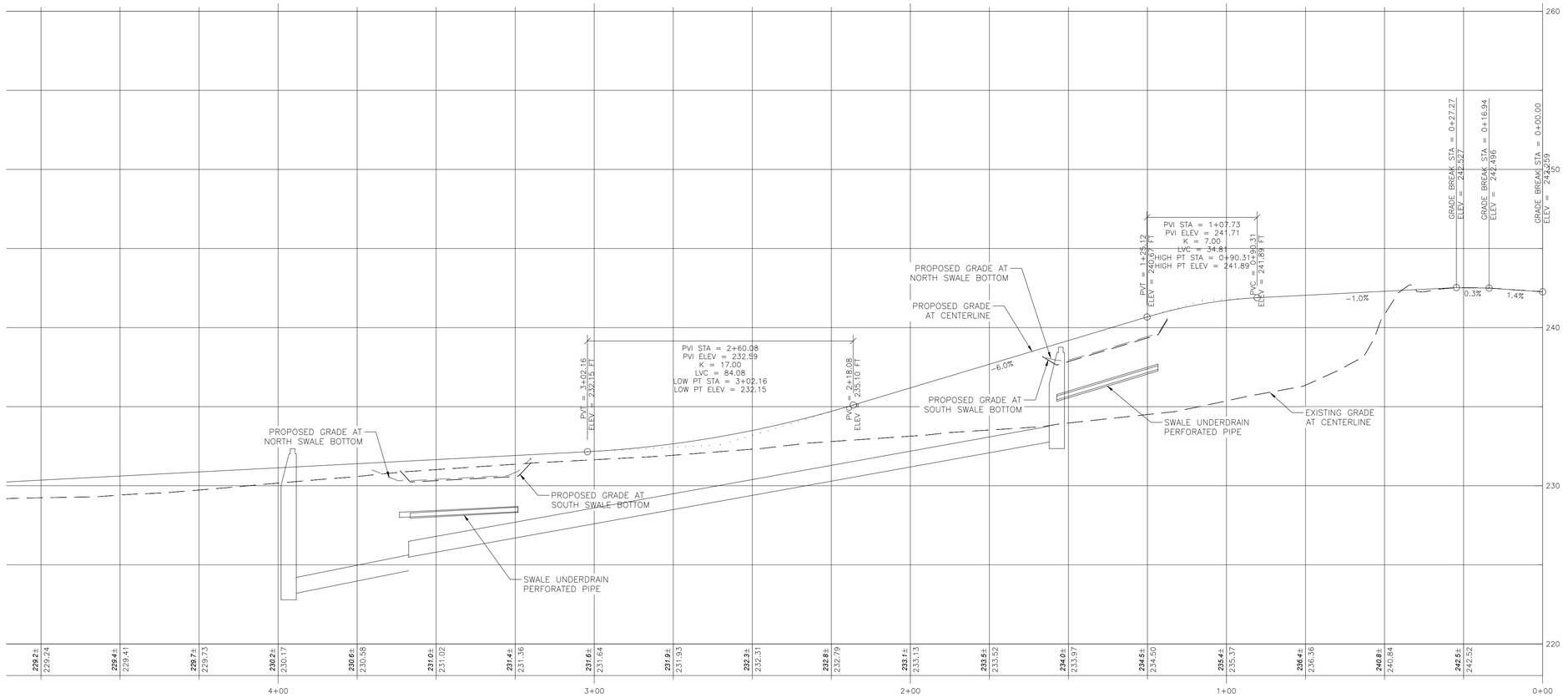
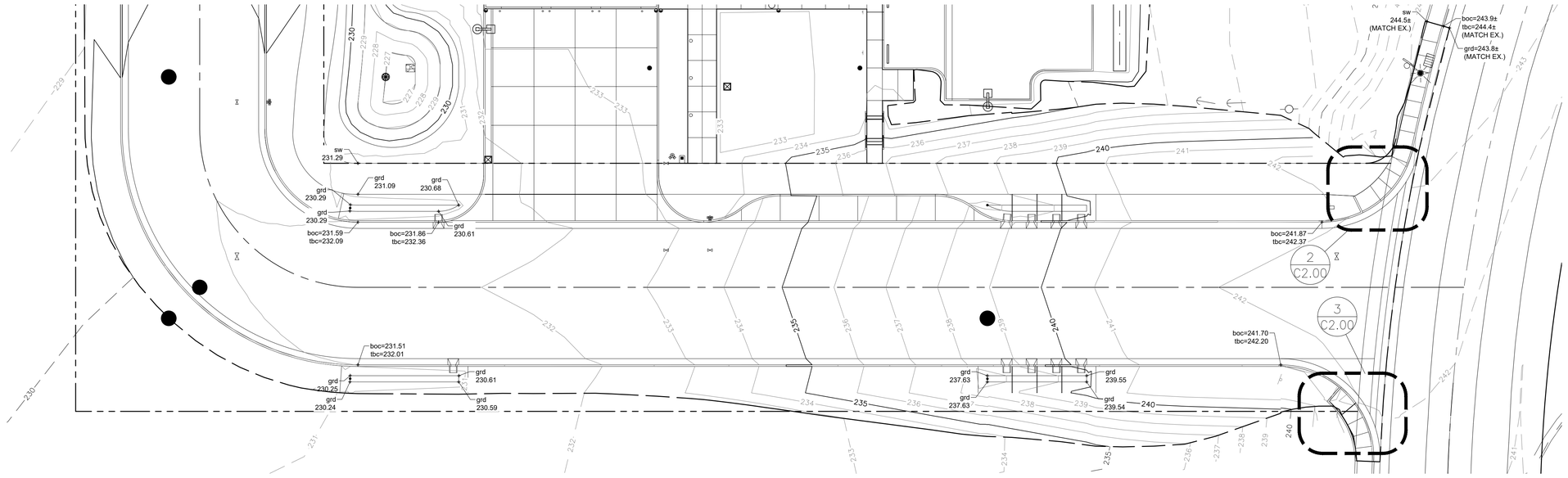


1 SOUTH ROW PROFILE

1" = 20' H, 1" = 4' V



2 SOUTH ROW GRADING PLAN

1" = 20'

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Drawing Title
SOUTH ROW GRADING PLAN

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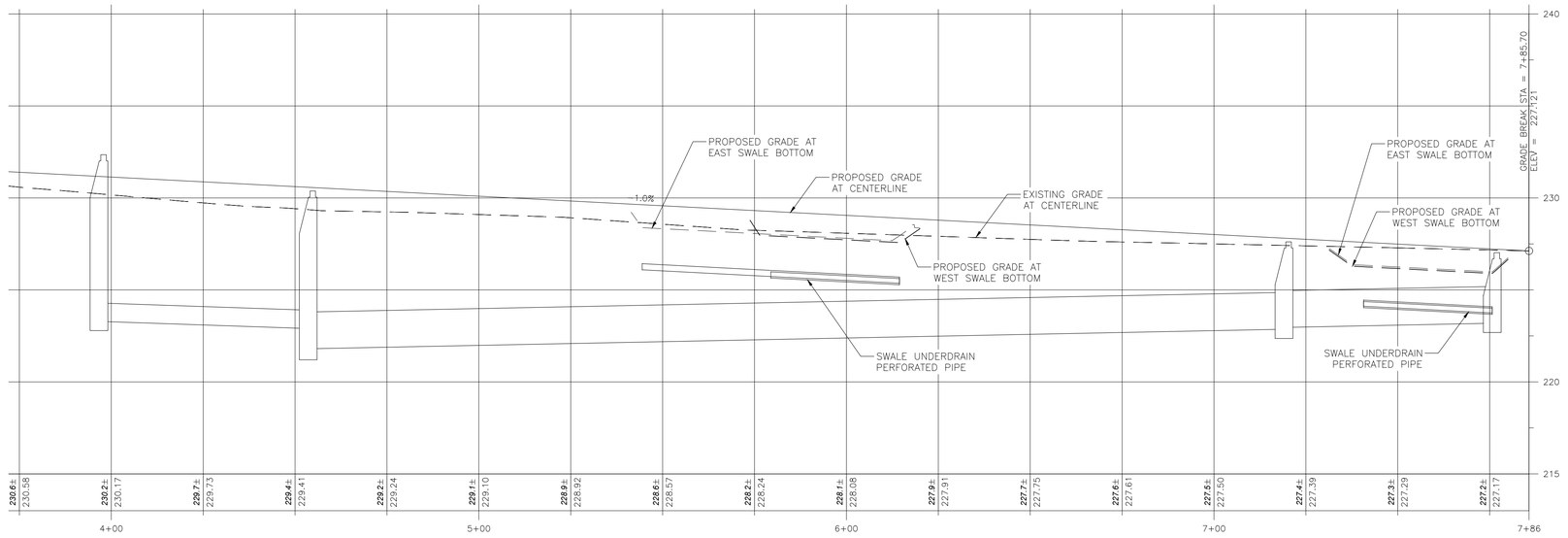
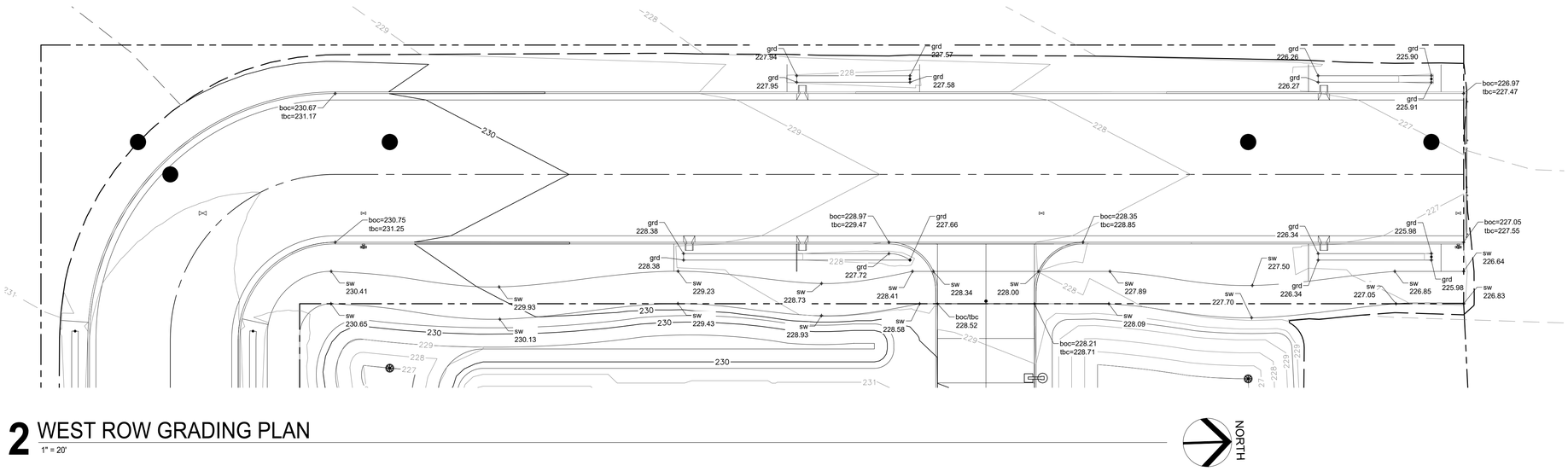


1 WEST ROW PROFILE

1" = 20' H, 1" = 4' V



2 WEST ROW GRADING PLAN

1" = 20'

NORTH

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Drawing Title
WEST ROW GRADING PLAN

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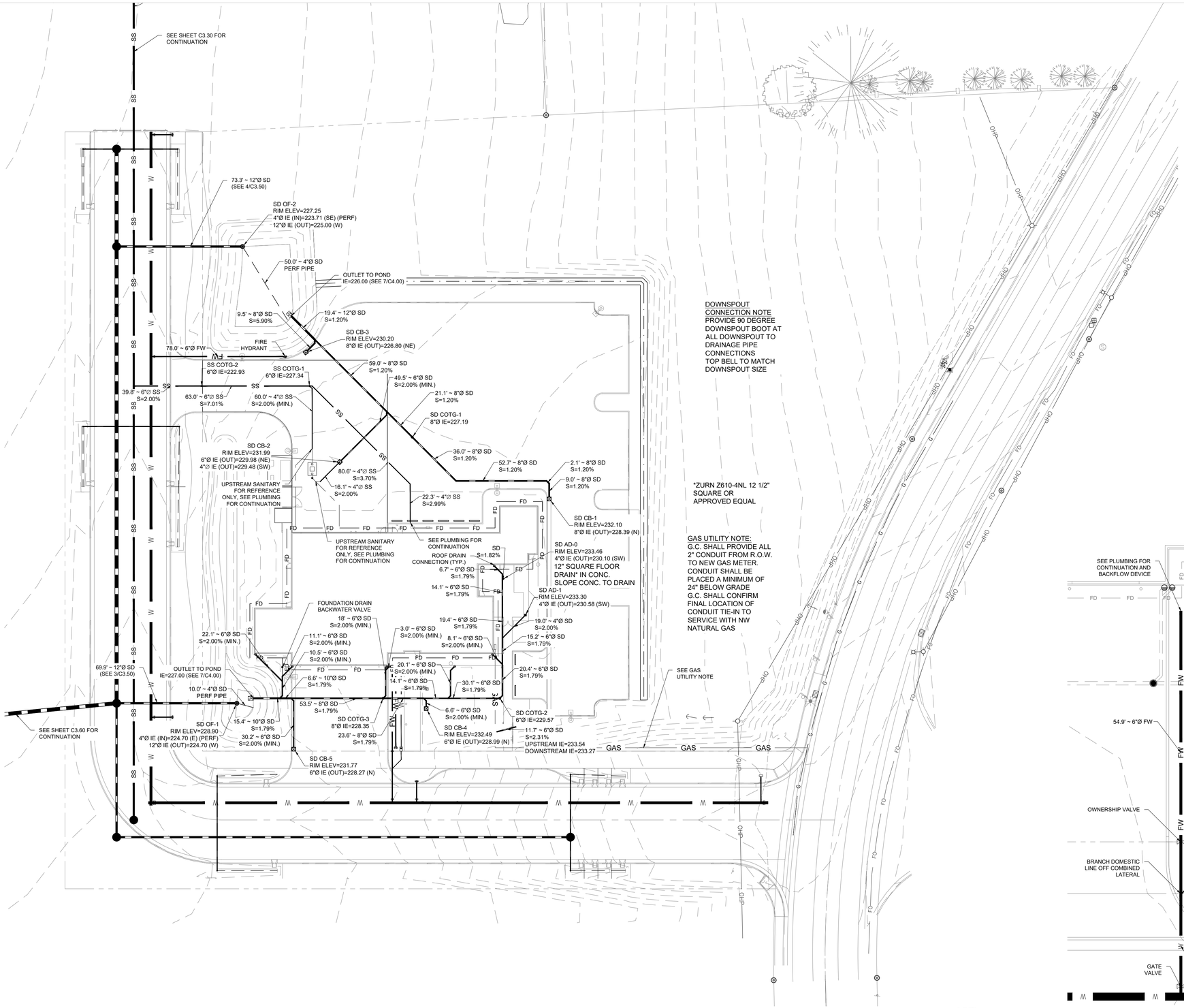


DOWNSPOUT CONNECTION NOTE
PROVIDE 90 DEGREE DOWNSPOUT BOOT AT ALL DOWNSPOUT TO DRAINAGE PIPE CONNECTIONS
TOP BELL TO MATCH DOWNSPOUT SIZE

*ZURN Z610-4NL 12 1/2" SQUARE OR APPROVED EQUAL

GAS UTILITY NOTE:
G.C. SHALL PROVIDE ALL 2" CONDUIT FROM R.O.W. TO NEW GAS METER. CONDUIT SHALL BE PLACED A MINIMUM OF 24" BELOW GRADE
G.C. SHALL CONFIRM FINAL LOCATION OF CONDUIT TIE-IN TO SERVICE WITH NW NATURAL GAS

UTILITY NOTES

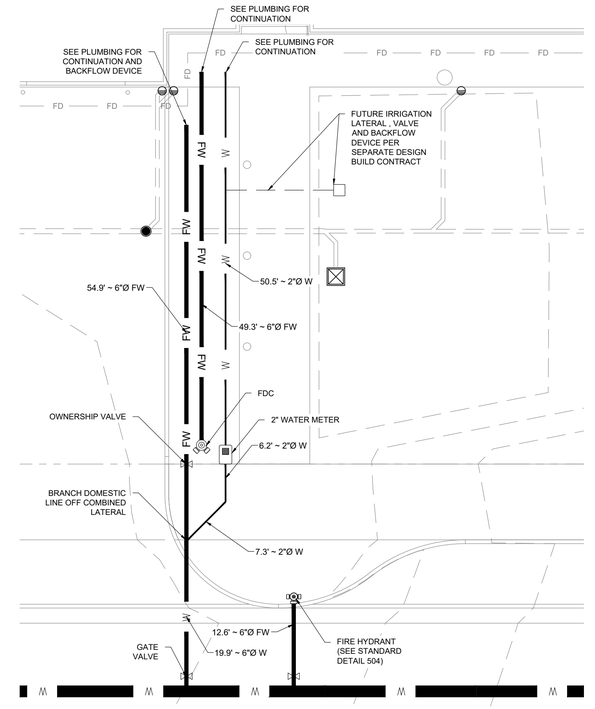
1. ALL UTILITIES TO BE INSTALLED PER CITY OF MILLERSBURG STANDARDS, OREGON PLUMBING SPECIALTY CODE, OR PER DETAILS.
2. COORDINATE WITH MECHANICAL PLANS ALL SEWER AND WATER DESIGN ELEMENTS.
3. SEE GRADING PLAN FOR ALL STORM SYSTEM ELEMENTS SHOWN ON THIS PLAN BUT NOT CALLED OUT.
4. ALL WATER LINE JOINTS TO BE RESTRAINED.
5. INSTALL OMNI BALLS FOR WATER LINE LOCATION.

LEGEND

- PROPOSED STORM LINE
- FD — PROPOSED FOUNDATION DRAIN LINE
- SS — PROPOSED SANITARY LINE
- W — PROPOSED WATER LINE
- FW — PROPOSED FIRE LINE
- 350 — FINISHED GRADE MAJOR CONTOURS (5 FT INTERVALS)
- 352 — FINISHED GRADE MINOR CONTOURS (1 FT INTERVALS)
- PROPOSED CATCH BASIN
- PROPOSED AREA DRAIN
- PROPOSED BEEHIVE OVERFLOW
- PROPOSED STORM CLEANOUT
- SD — PROPOSED STORM MANHOLE
- PROPOSED SANITARY CLEANOUT
- SS — PROPOSED SANITARY MANHOLE
- PROPOSED FIRE HYDRANT
- PROPOSED FDC

1 UTILITY PLAN
1" = 30'

NORTH



2 WATER AND FIRE LATERAL ENLARGEMENT
1" = 10'

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SITE UTILITY PLAN

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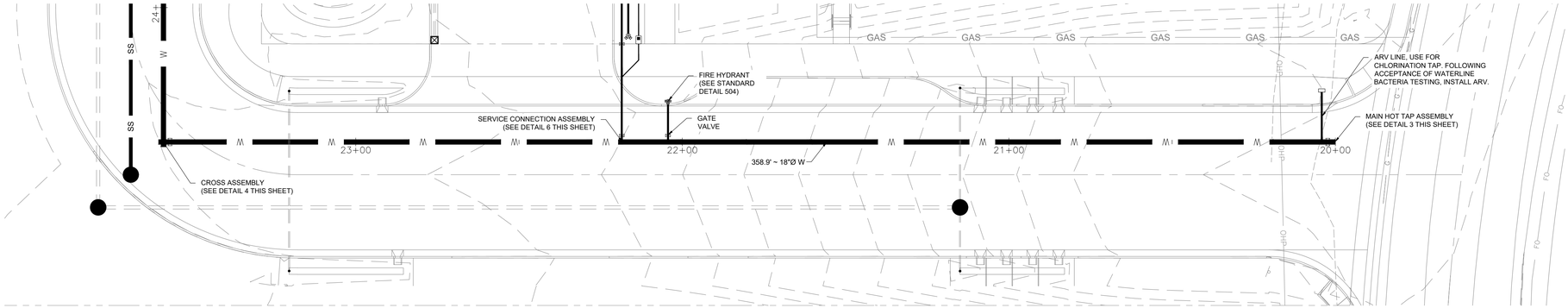
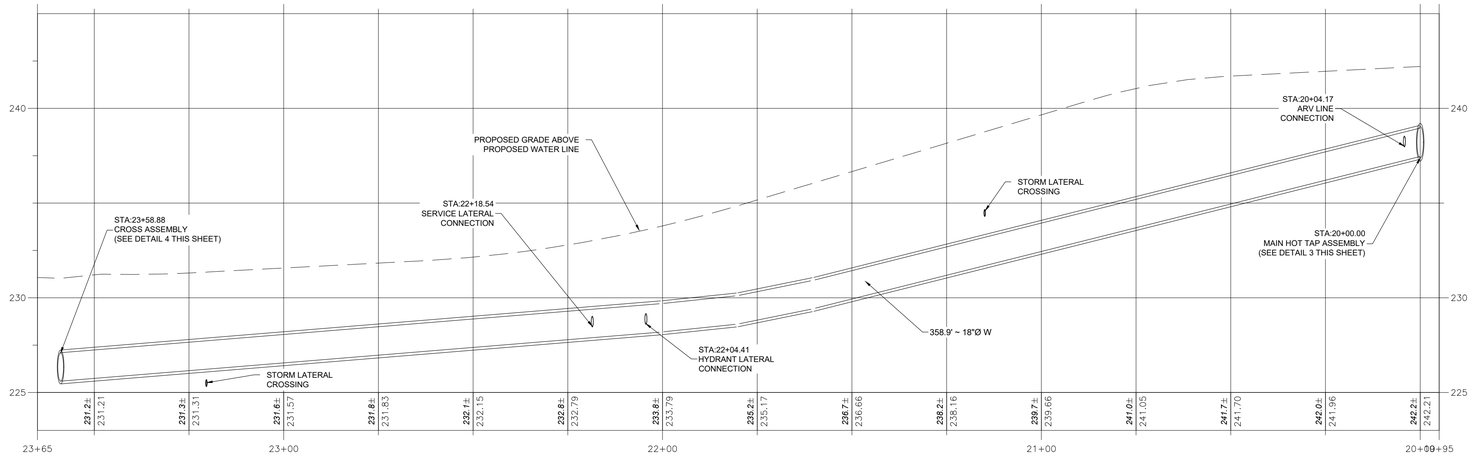


1 SOUTH ROW PUBLIC UTILITY PLAN

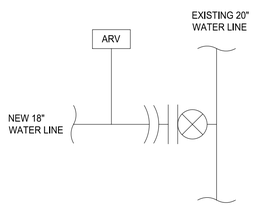
1" = 20'

NORTH



2 SOUTH ROW WATER MAIN PROFILE

1" = 20' H, 1" = 4' V



ASSEMBLY COMPONENTS

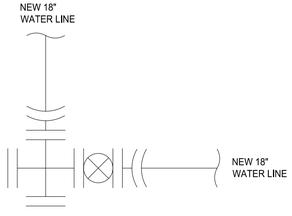
(1) 18" HOT TAP

(1) 18" FLG x MJ ADAPTER WITH RETAINER GLAND

(1) ARV ASSEMBLY PER STANDARD DETAIL 509

3 MAIN HOT TAP ASSEMBLY

NTS



ASSEMBLY COMPONENTS

(1) 18" x 18" ALL FLG CROSS

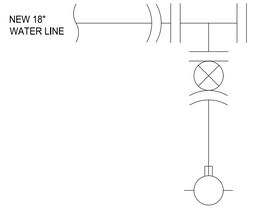
(2) 18" BLIND FLANGE (W&S)

(1) 18" FLG BV

(2) 18" FLG x MJ ADAPTER WITH RETAINER GLAND

4 CROSS ASSEMBLY

NTS



ASSEMBLY COMPONENTS

(1) 18" x 6" ALL FLG TEE

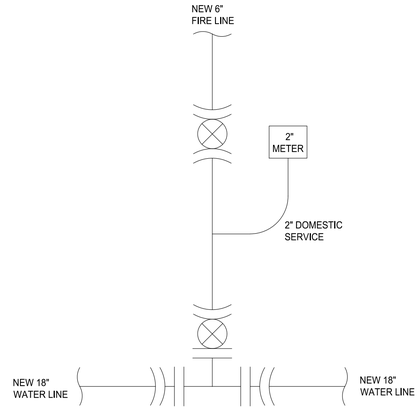
(1) 18" BLIND FLANGE

(1) 18" FLG X MJ ADAPTER WITH RETAINER GLAND

(1) FIRE HYDRANT ASSEMBLY PER STANDARD DETAIL 504

5 END OF LINE ASSEMBLY

NTS



ASSEMBLY COMPONENTS

(1) 18" x 6" ALL FLG TEE

(1) 6" FLG x MJ GV WITH RETAINER GLAND

(2) 18" FLG x MJ ADAPTORS WITH RETAINER GLAND

(1) 6" MJ x MJ GV WITH 2 RETAINER GLANDS

6 SERVICE CONNECTION ASSEMBLY

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Revisions

No.	Description	Date
1	Pre-Bid Revisions	2/3/21

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69189PE
OREGON
SEPT. 13 2013
JOSEPH F. KURTH

EXPIRES: 6-30-21

Issuance

CONFORM SET

Date

4/2/21

Project Number

20335

Drawing Title

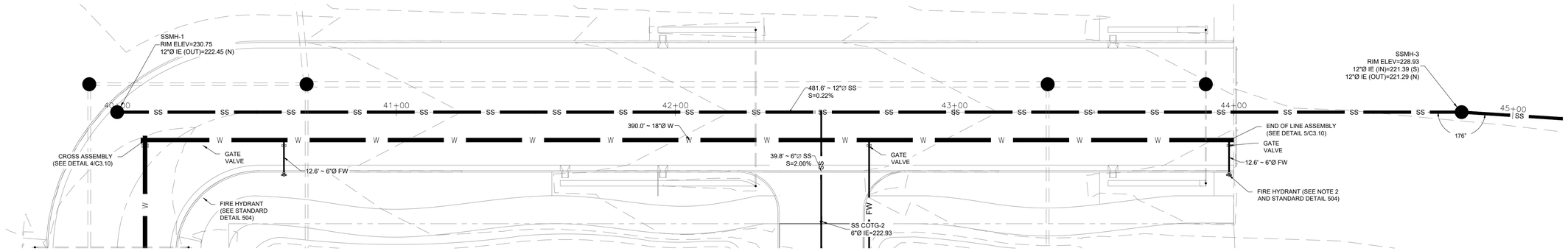
SOUTH ROW UTILITY PLAN AND PROFILE

Sheet No

C3.10

NOTES

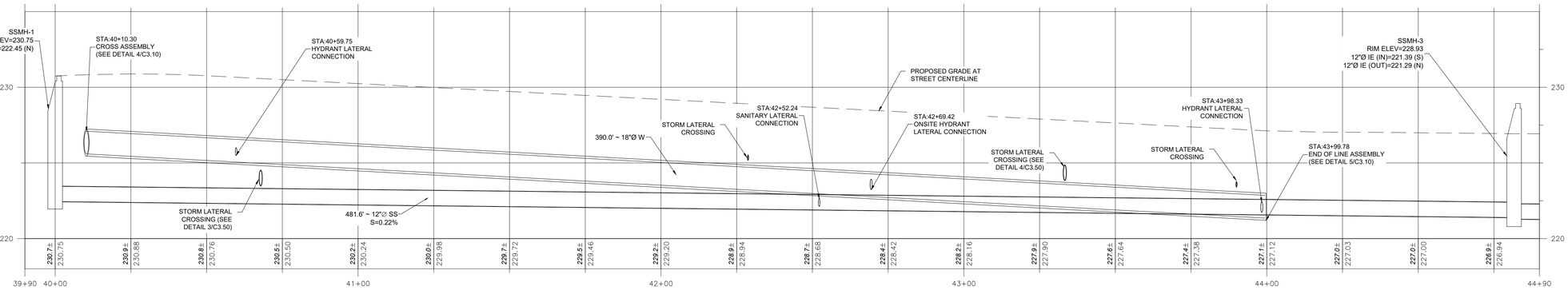
1. FOR WATER/SANITARY CROSSING WITH LESS THAN 18" OF VERTICAL SEPARATION, INSTALL CLSM SUPPORT PER DETAIL 3 THIS SHEET.
2. BLOW OFF WATERLINE THROUGH 6" LINE PRIOR TO INSTALLING HYDRANT, THEN INSTALL HYDRANT PRIOR TO PRESSURE TESTING.



1 WEST ROW PUBLIC UTILITY PLAN (SOUTH)

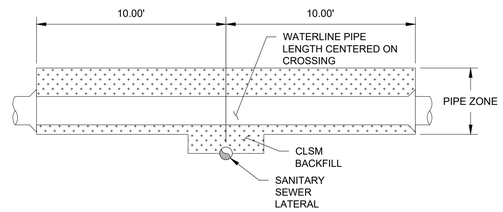
1" = 20'

NORTH



2 WEST ROW PUBLIC UTILITY PROFILE (SOUTH)

1" = 20' H, 1" = 4' V



3 WATER/SANITARY CLSM BACKFILL

NTS

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OREGON
SEPT. 13 2013
JOSEPH F. KURTH
EXPIRES: 6-30-21

Issuance
CONFORM SET

Date
4/2/21

Project Number
20335

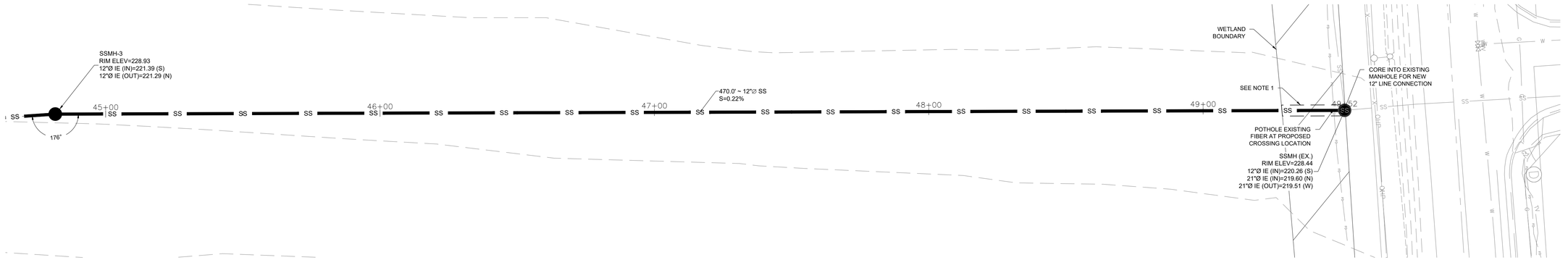
Drawing Title
WEST ROW UTILITY PLAN AND PROFILE

Sheet No
C3.20

DATE 4/2/2021 3:53 PM
FILE PATH: T:\ACTIVE PROJECTS\20335_SODERSTROM\ARCHITECTS_MILLERSBURG_MILLERSBURGFIRESTATION\CIVIL3D\PRODUCTION DRAWINGS\C3.0 UTILITY PLAN

NOTES

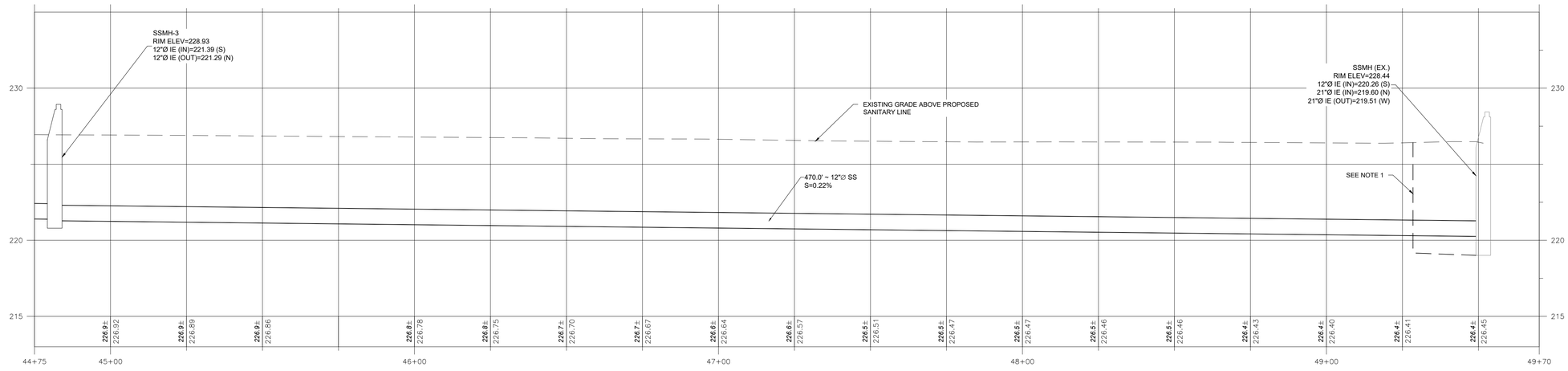
1. MINIMIZE DISTURBANCE OF SOIL THROUGH WETLAND AREA. TRENCH SHALL BE A MAXIMUM OF 4 FEET WIDE. NO ADDITIONAL SOIL DISTURBANCE WITHIN THE WETLAND AREA SHALL BE ALLOWED.



1 WEST ROW PUBLIC UTILITY PLAN (NORTH)

1" = 20'

NORTH



2 WEST ROW PUBLIC UTILITY PROFILE (NORTH)

1" = 20' H, 1" = 4' V

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EXPIRES: 6-30-21

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Project Number

20335

Drawing Title

NORTH SANITARY SEWER PLAN AND PROFILE

Sheet No

C3.30

DATE 4/2/2021 3:53 PM
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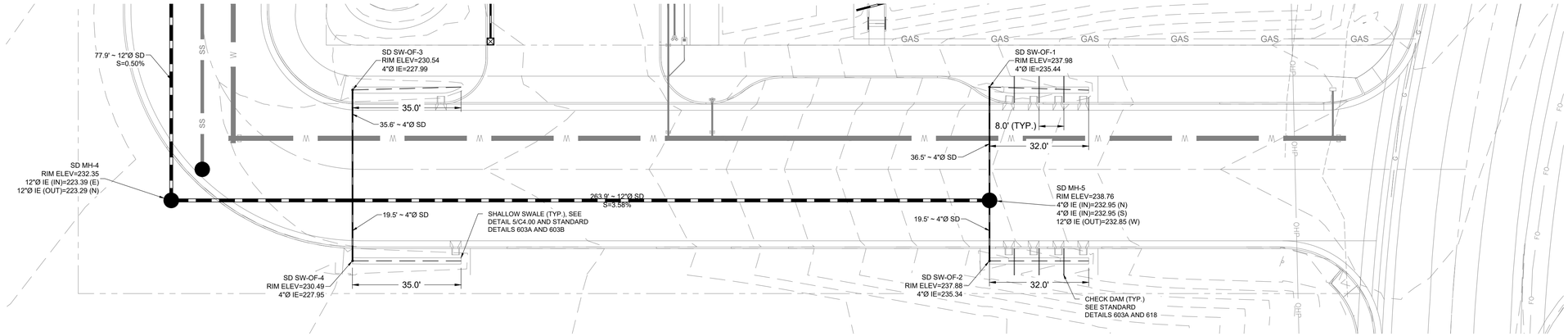
ROW STORM NOTES

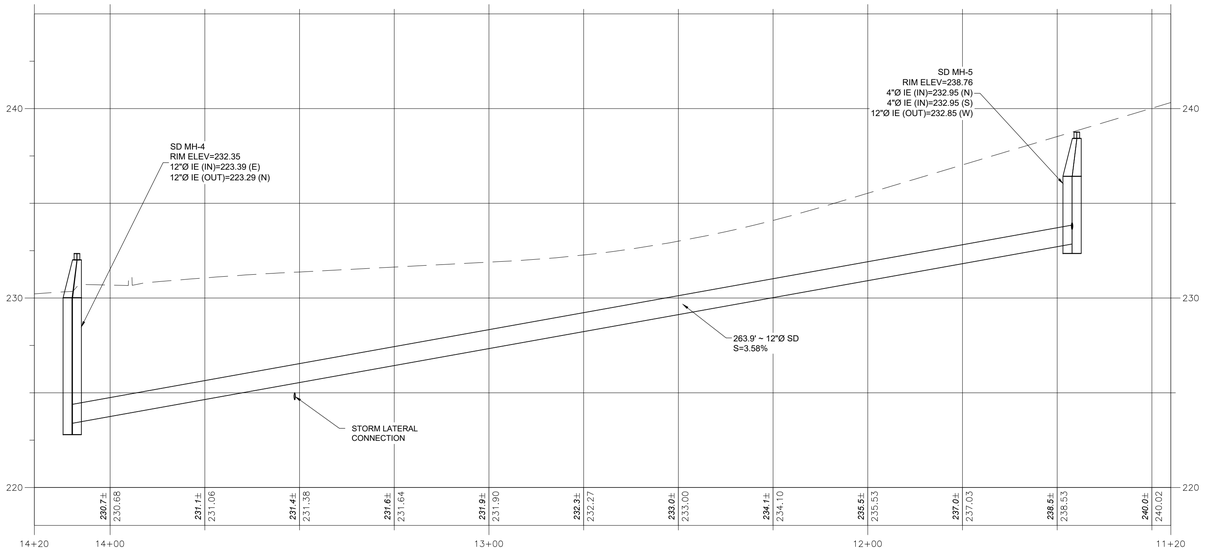
1. SLOPE ALL ROADSIDE SWALE OVERFLOW LATERALS AS NECESSARY TO AVOID CONFLICTS WITH CROSSING UTILITIES. MAINTAIN A MINIMUM 2% SLOPE.



1 SOUTH ROW STORM PLAN

1" = 20'

NORTH



2 SOUTH ROW STORM PROFILE

1" = 20' H, 1" = 4' V

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CONFORM SET

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4/2/21

Project Number

20335

Drawing Title

SOUTH ROW STORM PLAN AND PROFILE

Sheet No

C3.40

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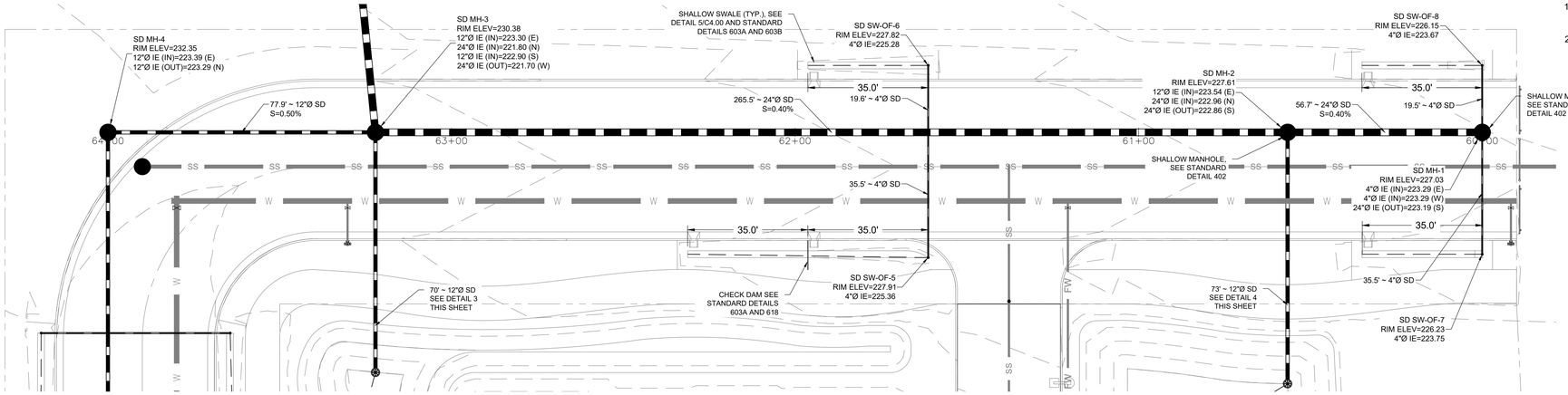
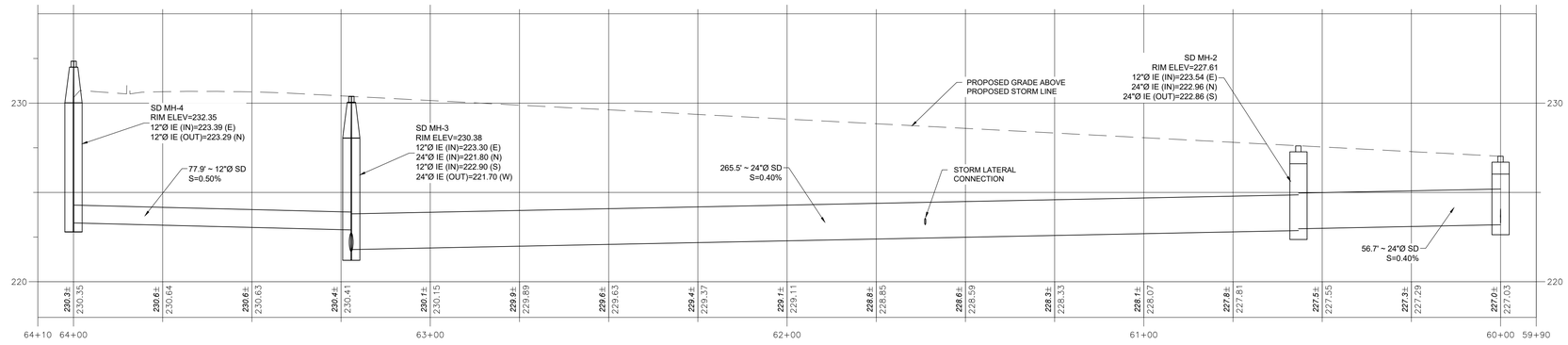
ROW STORM NOTES

1. SLOPE ALL ROADSIDE SWALE OVERFLOW LATERALS AS NECESSARY TO AVOID CONFLICTS WITH CROSSING UTILITIES. MAINTAIN A MINIMUM 2% SLOPE.
2. FOR STORM/WATER OR STORM/SANITARY CROSSINGS WITH LESS THAN 12" OF VERTICAL SEPARATION, INSTALL CLSM SUPPORT PER DETAIL 5 THIS SHEET.



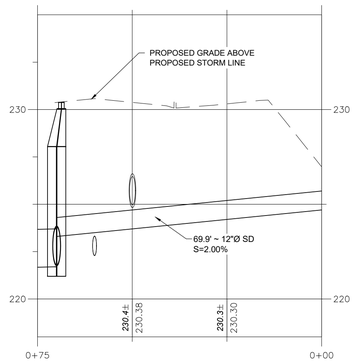
1 WEST ROW STORM PLAN

1" = 20'



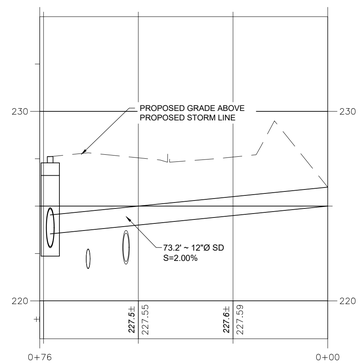
2 WEST ROW STORM PROFILE

1" = 20' H, 1" = 4' V



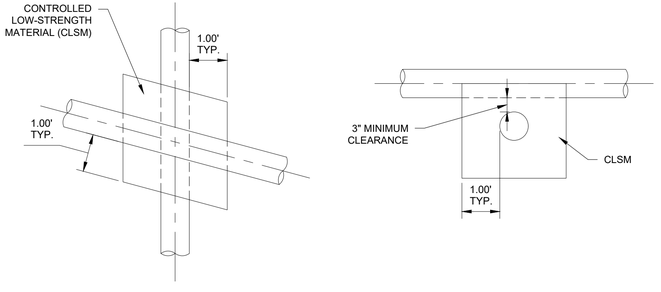
3 SOUTH OVERFLOW LATERAL PROFILE

1" = 20' H, 1" = 4' V



4 NORTH OVERFLOW LATERAL PROFILE

1" = 20' H, 1" = 4' V



NOTES

1. FOR CLSM REQUIREMENTS, REFER TO THE OREGON DOT STANDARD SPECIFICATION FOR CONSTRUCTION, SECTION 00442, 2021 EDITION.

5 CLSM SUPPORT

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Revisions

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1	Pre-Bid Revisions	2/3/21
2	Addendum 2	3/2/21

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Project Number

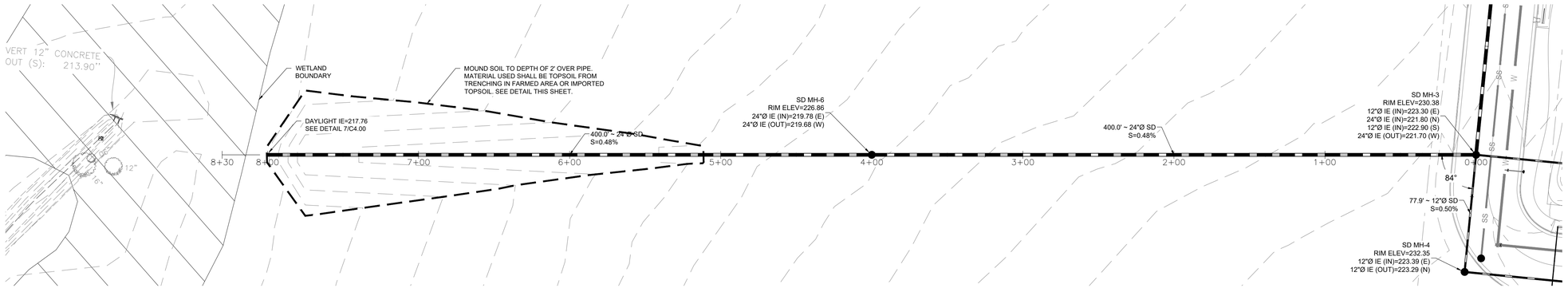
20335

Drawing Title

WEST ROW STORM PLAN AND PROFILE

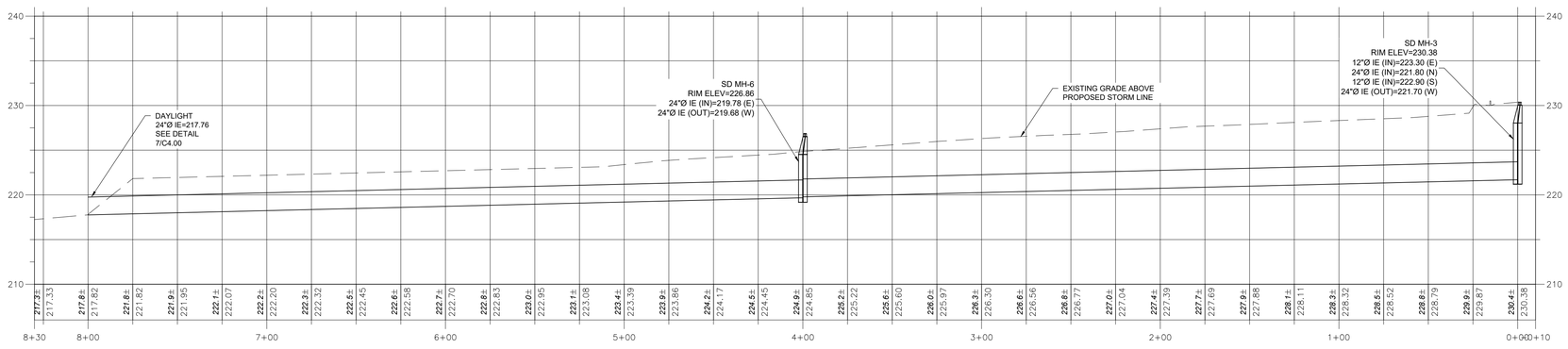
Sheet No

C3.50



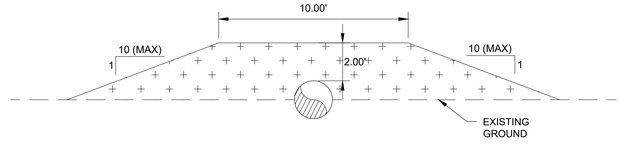
1 WEST STORM OUTFALL PLAN

1" = 40'



2 WEST STORM OUTFALL PROFILE

1" = 40' H, 1" = 8' V



3 OUTFALL PIPE COVER DETAIL

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EXPIRES: 6-30-21

Issuance
CONFORM SET

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4/2/21

Project Number
20335

Drawing Title
WEST STORM OUTFALL PLAN AND PROFILE

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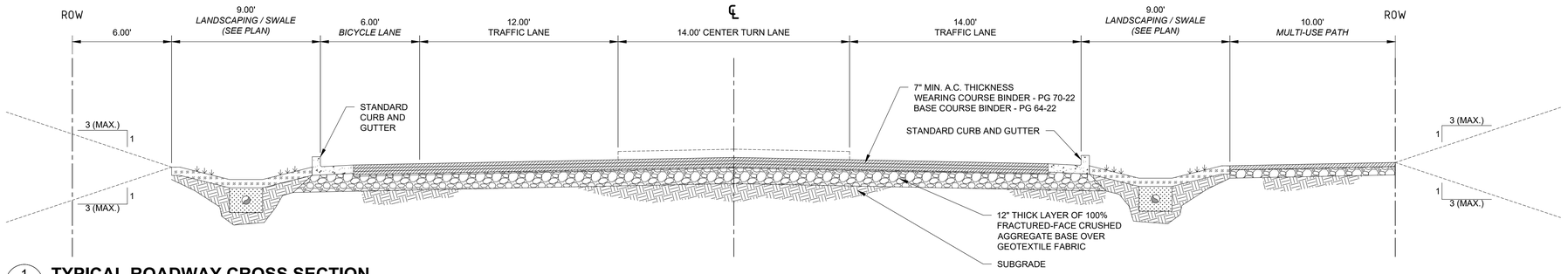
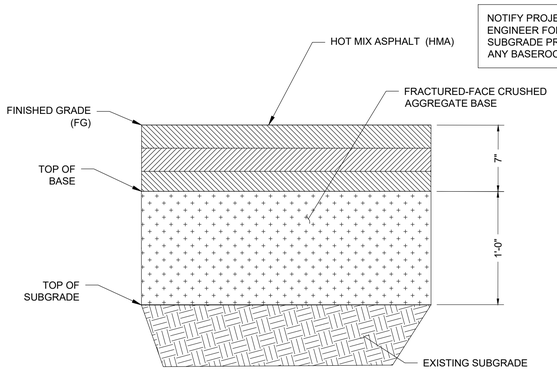


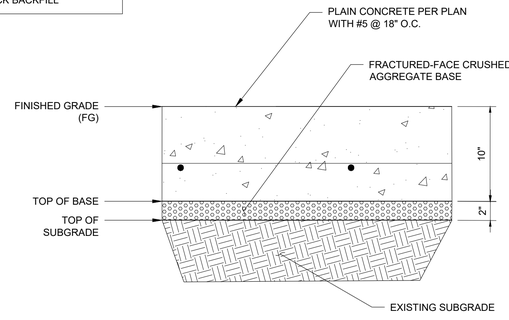
1 C4.00 TYPICAL ROADWAY CROSS SECTION

1"=4'



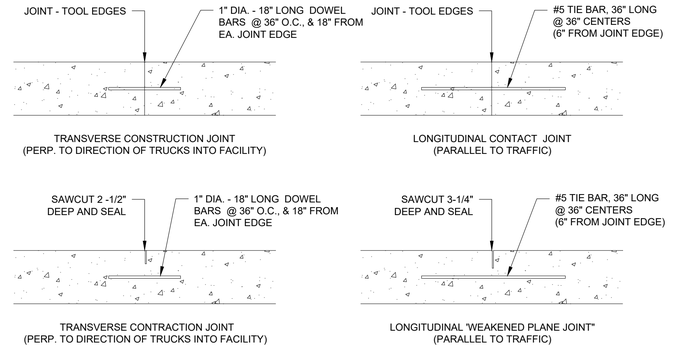
2 C4.00 TYPICAL ONSITE ASPHALT PAVEMENT SECTION

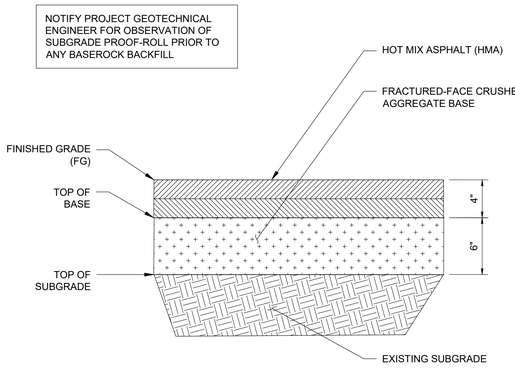
NTS



3 C4.00 CONCRETE PAVEMENT/DRIVEWAY SECTION

NTS





4 C4.00 MULTI-USE PATHWAY SECTION

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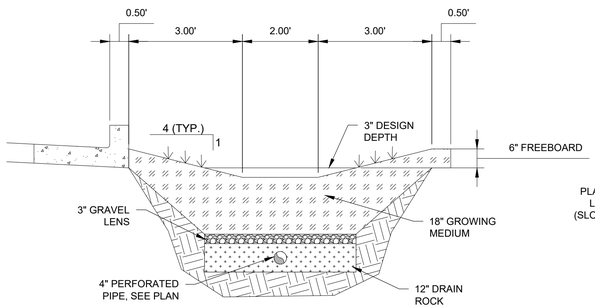
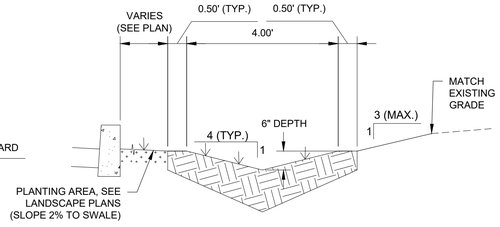


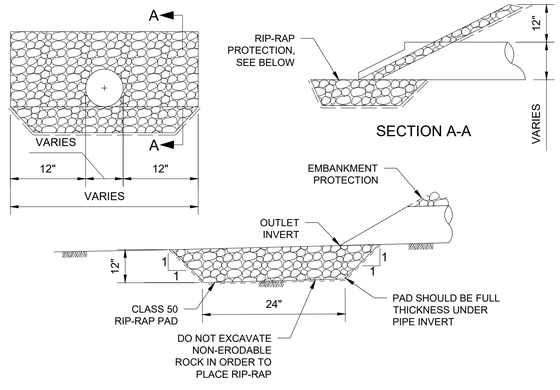
5 C4.00 STREETSIDE SWALE SECTION

NTS



6 C4.00 CONVEYANCE SWALE

NTS



7 C4.00 EMBANKMENT PROTECTION & RIP-RAP PAD

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JOSEPH F. KURTH
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DETAILS

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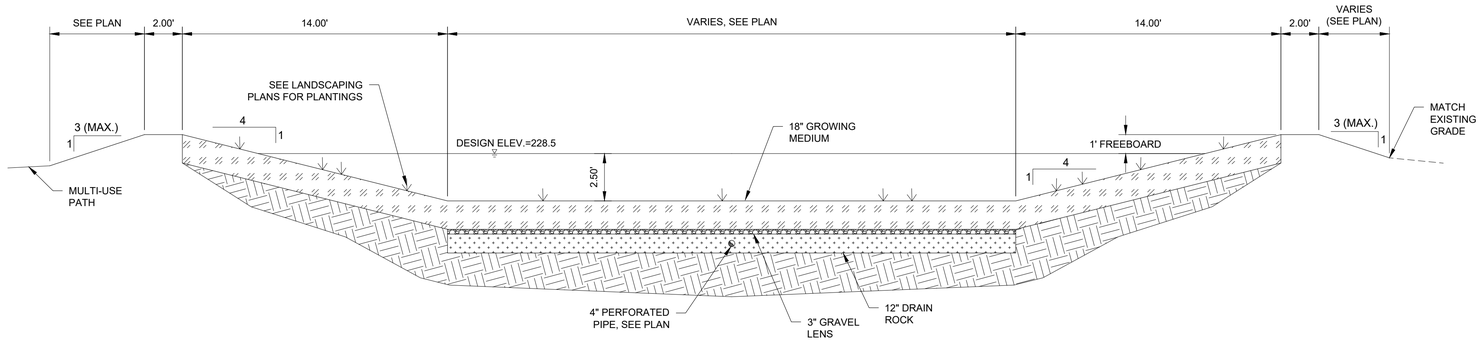
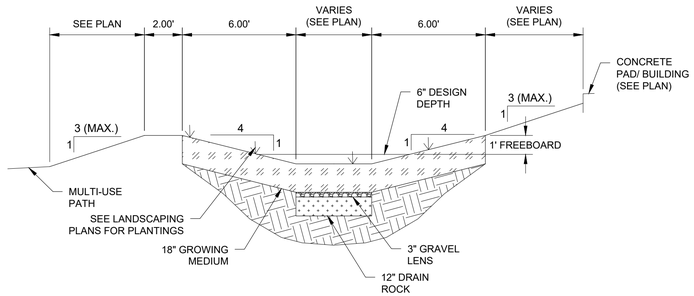
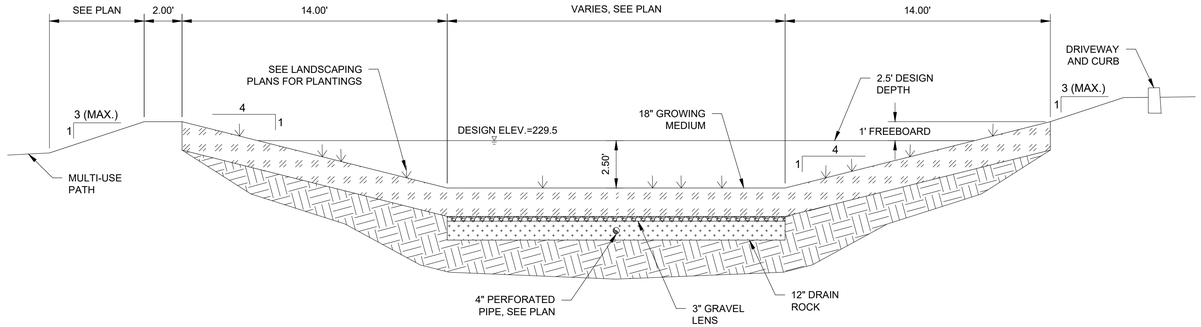


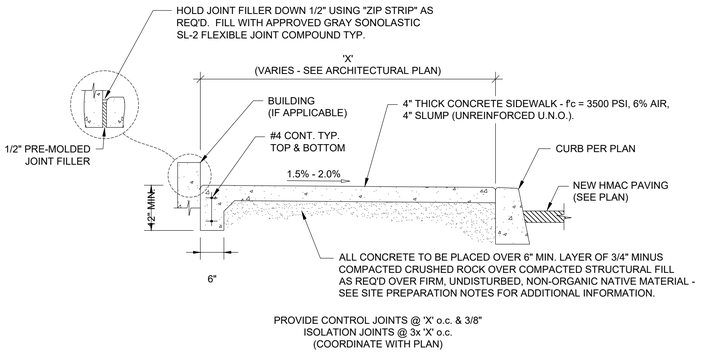
1 C4.10 NORTH POND SECTION
NTS



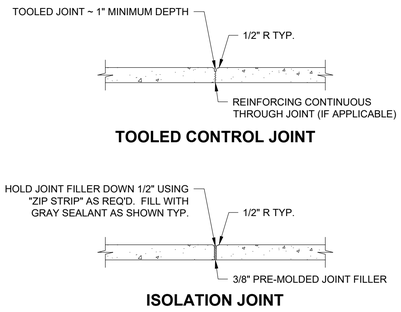
2 C4.10 SOUTH POND SECTION 1
NTS



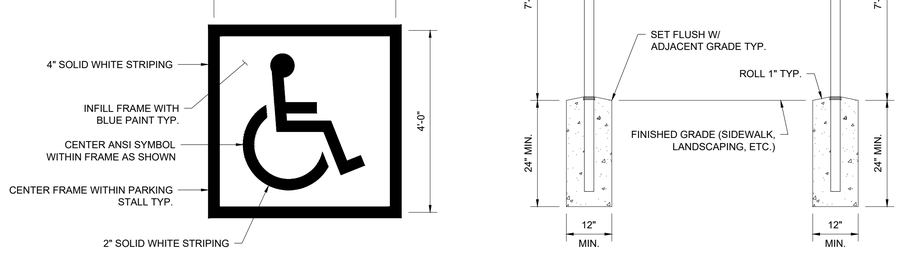
3 C4.10 SOUTH POND SECTION 2
NTS



4 C4.10 PRIVATE SIDEWALK SECTION WITH CURB
NTS



5 C4.10 SIDEWALK JOINTING DETAILS
NTS



6 C4.10 ACCESSIBILITY SYMBOL AND SIGNAGE
NTS

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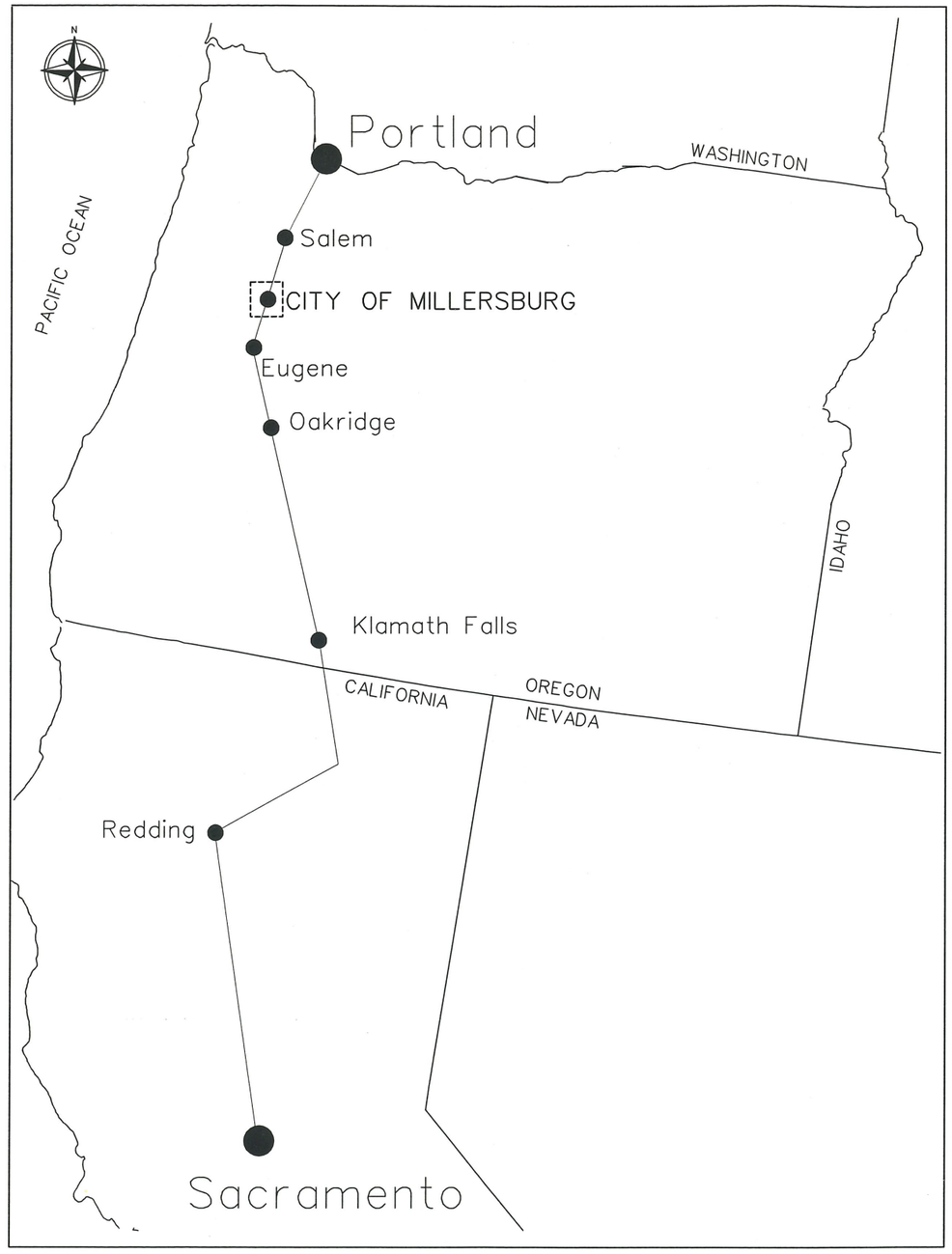
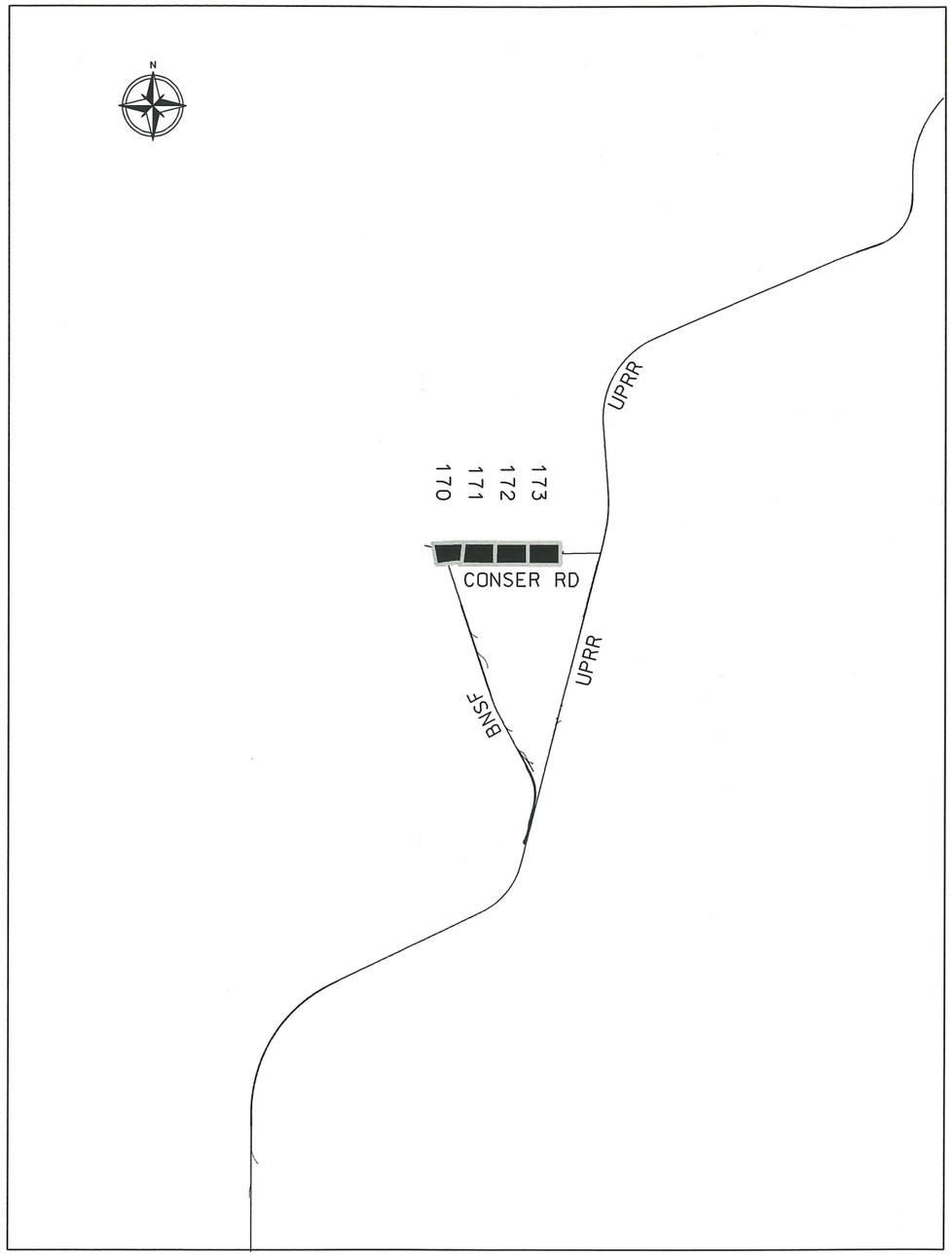
8. Level 3 Communications Fiber-Optic Cable Route



Level(3)
COMMUNICATIONS

FIBER-OPTIC CABLE ROUTE CONSTRUCTION DRAWINGS FOR LEVEL 3 COMMUNICATIONS

PROJECT SPAN
CITY OF MILLERSBURG



Level(3)
COMMUNICATIONS

CITY OF MILLERSBURG
INDEX

DRAWING NO.	STREET NAME
170	Woods Roads
171	Waverly Drive
	Amenda Lane
172	Bain Street
173	Approach Road

As-Built Annotation

Description	Options
Duct Type	H = HDPE P = PVC Z = Other
Duct Bank Count	2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30 Z = Other
Installation Method (other than plow or trench)	A = Attachment (i.e. bridges) B = Bore Z = Other No annotation if duct is plowed/trenched
Duct Bank Casing Type	F = FRE casing H = HDPE casing P = PVC casing S = Steel casing Z = Other
Duct Bank Casing Size	8 = 8 inch casing 9 = 9 inch casing 10 = 10 inch casing 12 = 12 inch casing 2*5 = 2-5 inch casing 2*6 = 2-6 inch casing Z = Other
Duct Bank Encasement	C = Concrete Q = Flowable fill M = Multicell (integrated duct and casing system) T = Steel plate on top of duct bank Z = Other
Duct Bank Cover Depth	Inches 20 (20" or less) 20/40 40/60 60/100 100 (100" or more)
Surface Restoration	PR = Pavement Restoration Roadway PW = Pavement Restoration Walkway
Handhole	HHA = FRP: API Model: 13-4800-42, concrete cover HHB = FRP: API Model: 13-4800-42, cast iron cover HHZ = Other
Manhole	MHA = FRP: API Model 13-4882-20, hatch doors MHB = FRP: API Model 13-4882-45, cast iron cover MHC = Manhole, 4.0' x 4.0' x 4.0' MHZ = Manhole (other)

Rev	Description	Design By	Quality Control By	Quality Control Date	Approved By	Approved Date
1	AS-BUILT DWGS			5/2001		

CALL BEFORE YOU DIG
1-800-332-2344

48 HOURS NOTICE REQUIRED

Owner: Level(3) COMMUNICATIONS

Contractor: Kiewit Network Services Co.

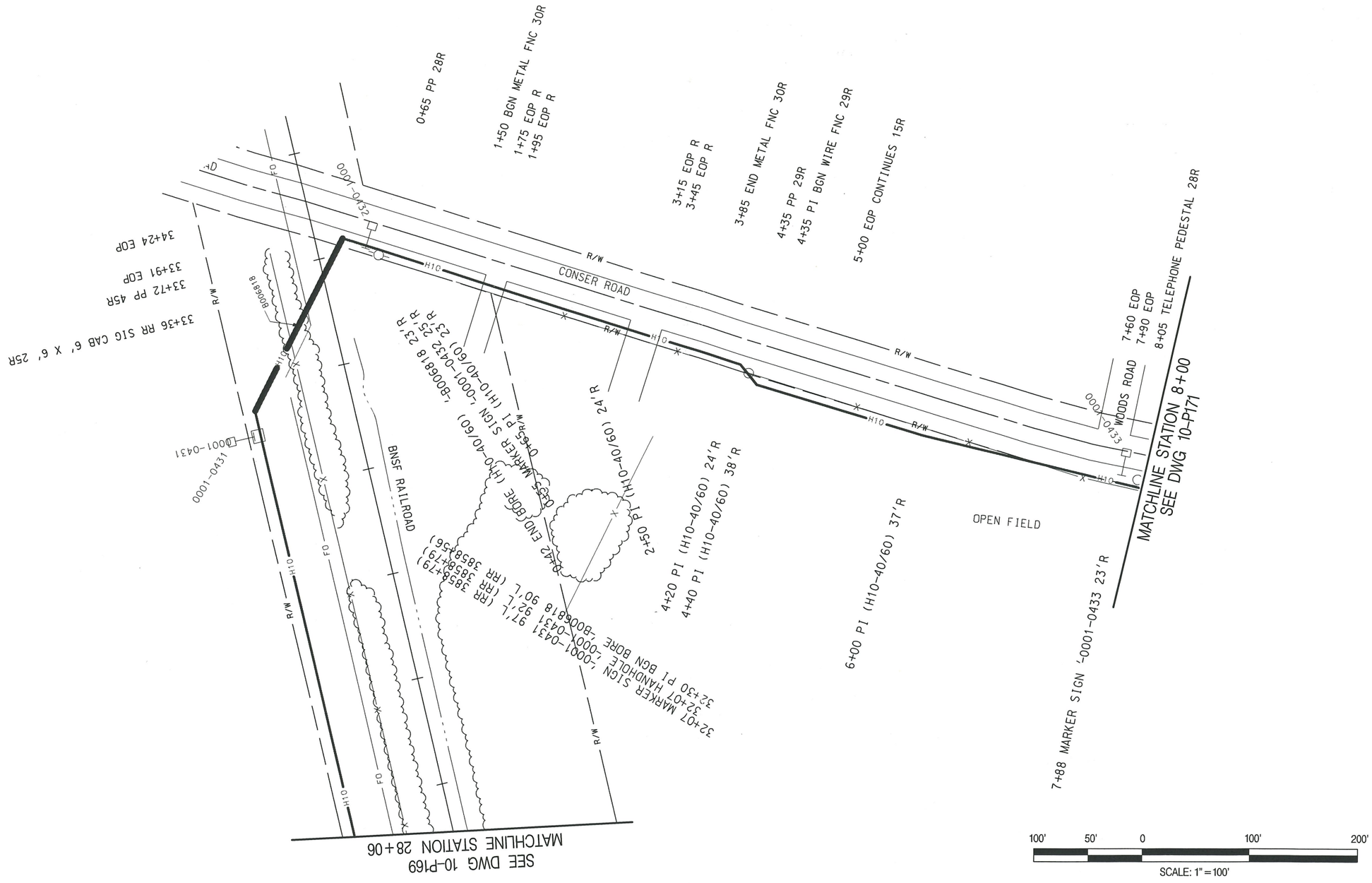
Engineer: PB PARSONS BRINCKERHOFF

Program: Intercity Network
City Pair: Sacramento to Portland
Package Title: City of Millersburg
Drawing Title: As-Built Annotation Code Legend

City Pair Code	Span No.	Package No.	Type	Drawing No.	Rev	Sheet No.
SACPOR	10		P	L1	A	1 1

User: $(User)
Time: 10:26:29
Date: 30 MAY 101
Filename: I:\paper_deliverable\sacpor\millersburg\codelegend.dgn

SEC 20, T10S, R3W, W.M.
CITY OF MILLERSBURG, OR



The locations of utilities shown on this drawing are only approximate. Level 3 Communications, LLC hereby disclaims any responsibility to third parties for the accuracy of this information. Persons working in the area covered by this drawing must contact the statewide Call-Before-You-Dig System to ascertain the location of underground utilities prior to performing any excavation.

Rev	Description	Design By	Quality Control By	Quality Control Date	Approved By	Approved Date
1	AS-BUILT DWGS			5/2001		

CALL BEFORE YOU DIG
1-800-332-2344

48 HOURS NOTICE REQUIRED

Owner: Level(3) COMMUNICATIONS

Contractor: Kiewit Network Services Co.

Engineer: PB PARSONS BRINCKERHOFF

Program: Intercity Network
City Pair: Sacramento to Portland
Package Title: City of Millersburg
Drawing Title: 28+06 to 8+00

City Pair Code	Span No.	Package No.	Type	Drawing No.	Rev	Sheet No.
SACPOR	10		P	170	A	

User: $(User)
Time: 11:10:57
Date: 30 MAY 101
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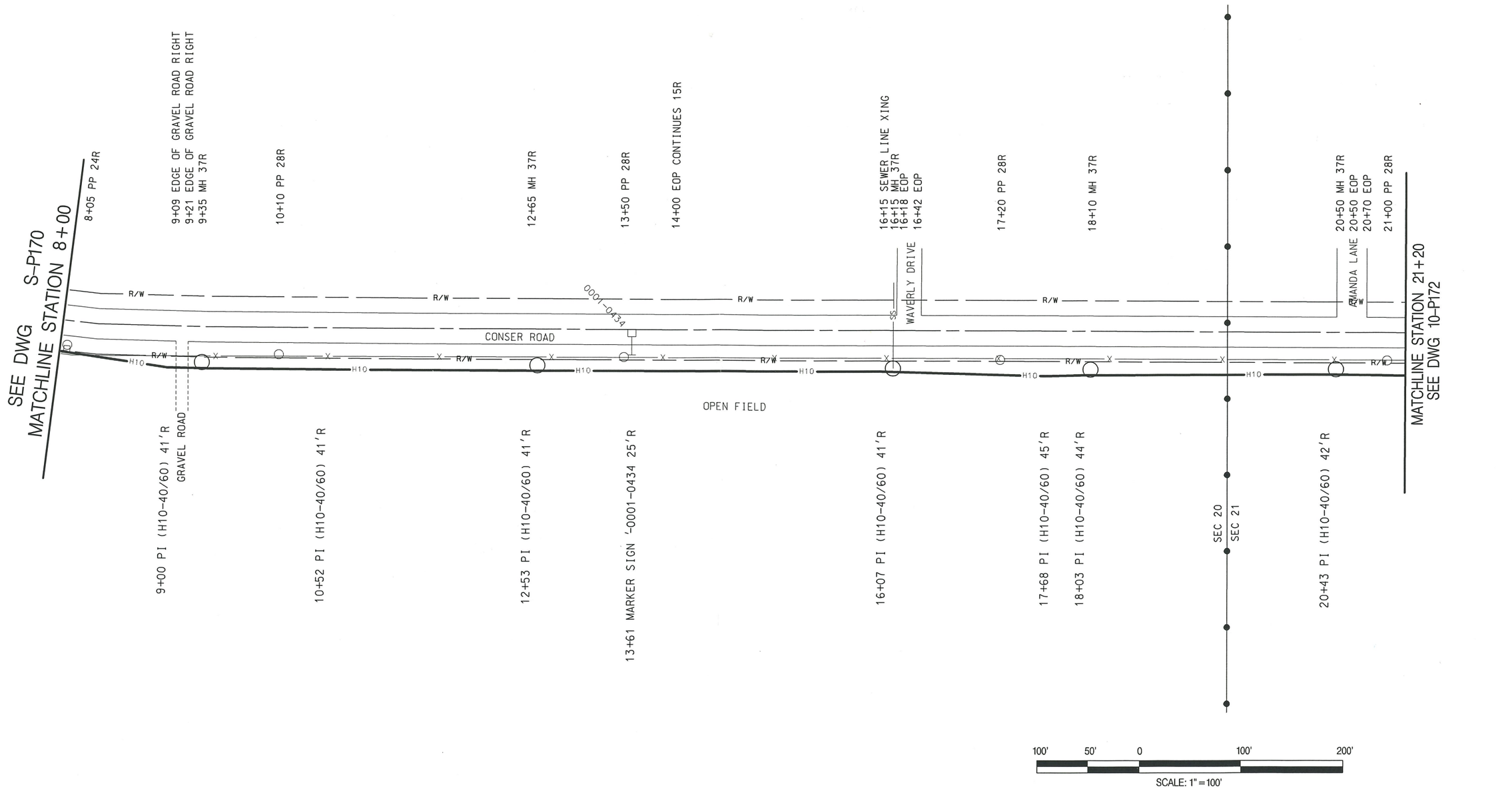
SEC 20&21, T10S, R3W, W.M.
CITY OF MILLERSBURG, OR



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Rev	Description	Design By	Quality Control By	Quality Control Date	Approved By	Approved Date
1	AS-BUILT DWGS			5/2001		

CALL BEFORE YOU DIG
1-800-332-2344

48 HOURS NOTICE REQUIRED

Owner: Level(3) COMMUNICATIONS SM

Contractor: Kiewit Network Services Co.

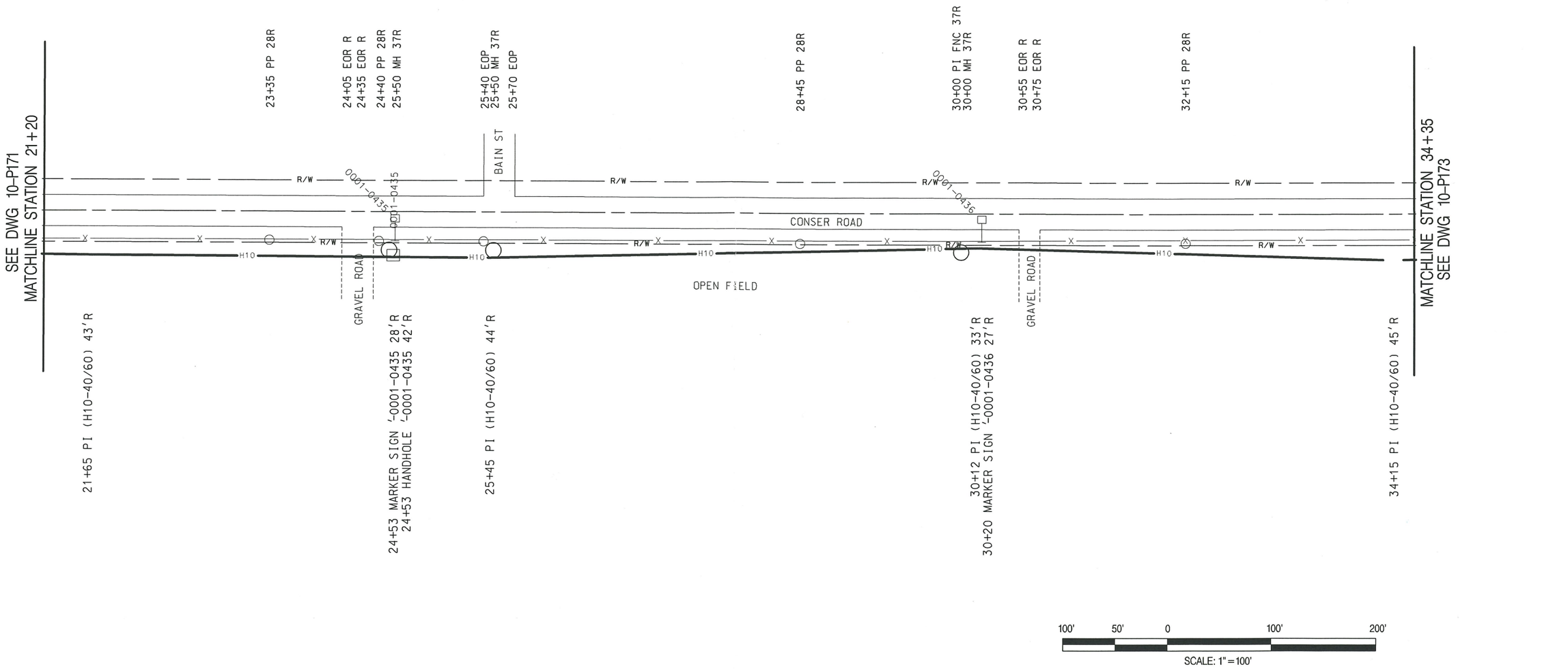
Engineer: PB PARSONS BRINCKERHOFF

Program: Intercity Network
City Pair: Sacramento to Portland
Package Title: City of Millersburg
Drawing Title: 8+00 to 21+20

City Pair Code	Span No.	Package No.	Type	Drawing No.	Rev	Sheet No.
SACPOR	10		P	171	A	

User: $(User)
Time: 11:11:07
Date: 30 MAY 101
Filename: I:\paper_deliverable\sacpor\millersburg\span10_171.dgn

SEC 21, T10S, R3W, W.M.
CITY OF MILLERSBURG, OR



The locations of utilities shown on this drawing are only approximate. Level 3 Communications, LLC hereby disclaims any responsibility to third parties for the accuracy of this information. Persons working in the area covered by this drawing must contact the statewide Call-Before-You-Dig System to ascertain the location of underground utilities prior to performing any excavation.

Rev	Description	Design By	Quality Control By	Quality Control Date	Approved By	Approved Date
1	AS-BUILT DWGS			5/2001		

CALL BEFORE YOU DIG
1-800-332-2344

48 HOURS NOTICE REQUIRED

Owner: Level(3) COMMUNICATIONS

Contractor: Kiewit Network Services Co.

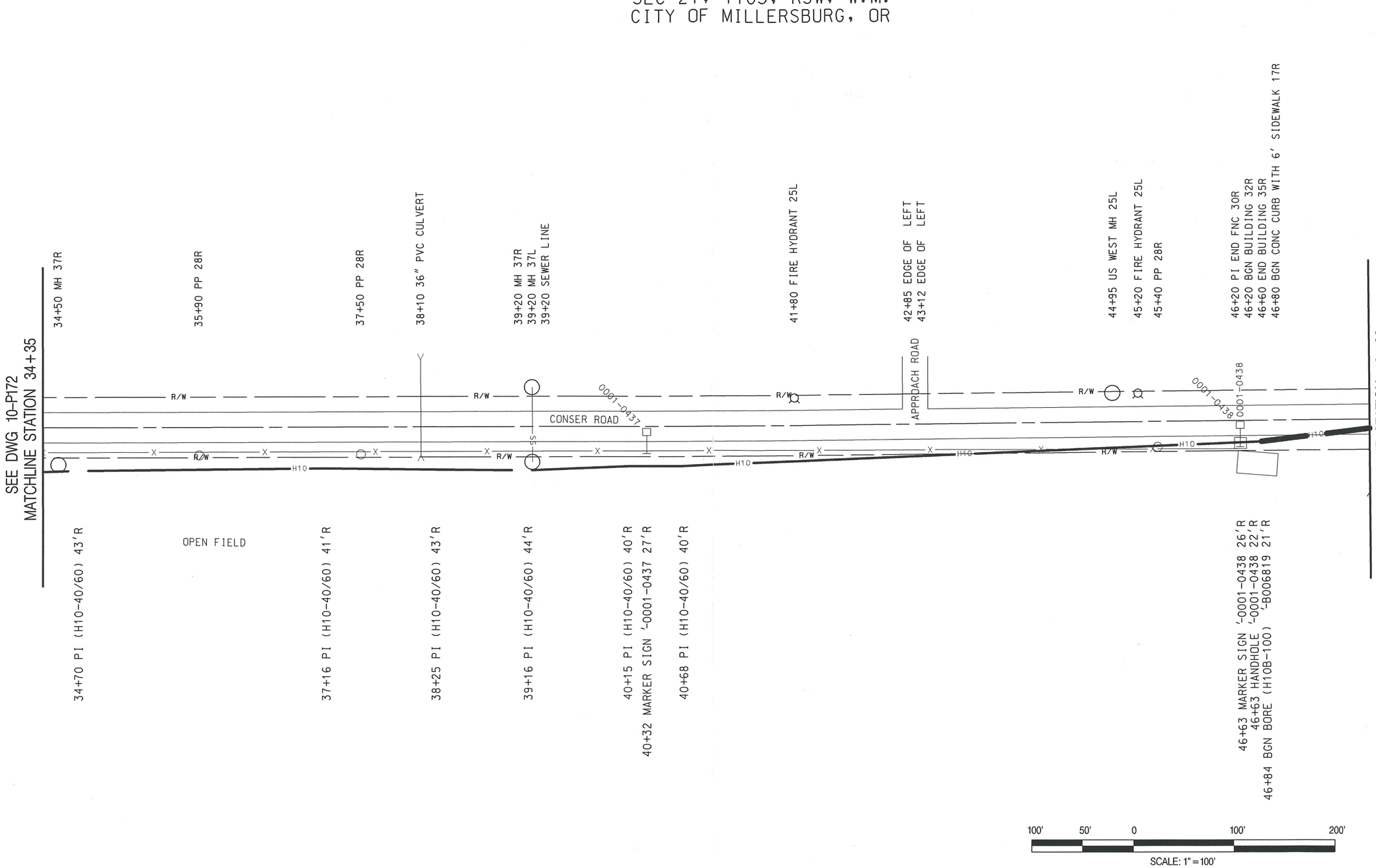
Engineer: PB PARSONS BRINCKERHOFF

Program: Intercity Network
City Pair: Sacramento to Portland
Package Title: City of Millersburg
Drawing Title: 21+20 to 34+35

City Pair Code	Span No.	Package No.	Type	Drawing No.	Rev	Sheet No.
SACPOR	10		P	172	A	

User: $(User)
Time: 11:11:16
Date: 30 MAY 101
Filename: I:\paper_deliverable\sacpor\millersburg\span10_172.dgn

SEC 21, T10S, R3W, W.M.
CITY OF MILLERSBURG, OR



User: $(User)
Time: 11:11:27
Date: 30 MAY 101
Filename: I:\paper_deliverable\sacpor\millersburg\span10_173.dgn

The locations of utilities shown on this drawing are only approximate. Level 3 Communications, LLC hereby disclaims any responsibility to third parties for the accuracy of this information. Persons working in the area covered by this drawing must contact the statewide Call-Before-You-Dig System to ascertain the location of underground utilities prior to performing any excavation.

Rev	Description	Design By	Quality Control By	Quality Control Date	Approved By	Approved Date
1	AS-BUILT DWGS			5/2001		

CALL BEFORE YOU DIG
1-800-332-2344

48 HOURS NOTICE REQUIRED

Owner: Level(3) COMMUNICATIONS

Contractor: Kiewit Network Services Co.

Engineer: PB PARSONS BRINCKERHOFF

Program: Intercity Network
City Pair: Sacramento to Portland
Package Title: City of Millersburg
Drawing Title: 34+35 to 46+90

City Pair Code	Span No.	Package No.	Type	Drawing No.	Rev	Sheet No.
SACPOR	10		P	173	A	