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CITY OF NOVI

SALT DOME REPLACEMENT OAKLAND COUNTY, MICHIGAN



CALL MISS DIG

3 WORKING DAYS BEFORE YOU DIG (EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS) (800) 482-7171 OR 811 GENERAL NOTE

- 1) MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CITY OF NOVI STANDARDS AND SPECIFICATIONS AND THE PROJECT MANUAL
- 2) BUILDINGS AND ELECTRICAL WORK SHALI BE CONSTRUCTED TO ALL RELEVANT STANDARDS AND CODES

SHEET 1

 BE IN ACCORDANCE WITH THE CITY OF NOVI STANDARDS AND SPECIFICATIONS AND THE PROJECT MANUAL 2) BUILDINGS AND ELECTRICAL WORK SHALL BE CONSTRUCTED TO ALL RELEVANT STANDARDS AND CODES 	FILE: Salt_Dome_Title.dgn AUTH DATE REVISION	
CONTRACT FOR: REMOVAL AND REPLACEMENT OF EXISTING SALT DOME AND ASSOCIATED SITE WORK	NOVI SALT DOME RECONSTRUCTION	TITLE SHEET
ENGINEEA No. 6201056032	JC 6072 DA 09/2	ов 8767 ТЕ 3/24

MAYOR PRO TEM LAURA MARIE CASEY PRIYA GURUMUTHY MATT HEINTZ ERICKA THOMAS CITY ENGINEER







EXISTING TYPICAL SALT DOME FLOOR CROSS SECTION



PROPOSED TYPICAL SALT DOME FLOOR CROSS SECTION

IDENT NO.	RATE PER SYD	PERFORMANCE GRADE	REMARKS			
5EML	165 lb	64-28	(1.5 INCHES) TOP COURSE (AWI = 260)			
4EML	247.5 lb	64-22	(2.25 INCHES) LEVELING COURSE			
3EML	330 lb	64-22	(3.0 INCHES) BASE COURSE			
SALT DOME FLOOR HMA APPLICATION RATE						







GENERAL NOTES

STANDARDS AND SPECIFICATIONS

All work must be completed in accordance with the City of Novi Standards and Specifications.

MAINTAINING TRAFFIC

See Project Manual.

CITY WORK HOURS

City work hours are Monday-Saturday, 7am-7pm. An approved variance is required to work outside those hours.

UNDERGROUND UTILITIES / MISS DIG

For protection of underground utilities and in conformance with Public Act 53, 1974, the Contractor shall dial 1-800-482-7171 a minimum of three full working days, excluding Saturdays, Sundays, and holidays prior to beginning each excavation in areas where public utilities have not been previously located. Members will thus be routinely notified. This does not relieve the Contractor of the responsibility of notifying utility owners who may not be a part of the "Miss Dig" alert system.

If plan information indicates an existing underground utility is or will be out of service within the limits of this contract. The Contractor is cautioned to treat such a line as if it were still in service and notify "Miss Dig" when working in the area of the out of service facility.

All utility information is approximate and is based on information provided by the owners.

Underground utilities within landscaped entrance islands are not part of MISS DIG's system. Use extreme caution in these areas.

EXISTING WATER MAINS AND SEWERS

The Contractor shall be responsible for any damage to properly identified existing water mains and/or existing sewers during the construction of this project. Field verification for vertical and horizontal location is required.

TRASH COLLECTION

When access by refuse collection vehicles is not provided, Contractor shall collect, deliver and return refuse containers from individual driveways and deliver to a central location for pickup by refuse haulers. Refuse in the City of Novi is collected by various private firms on scheduled days. Trash service shall not be delayed unless agreed to in writing with the respective service and approval by the Engineer and City.

MAIL COLLECTION AND DELIVERY

Mail collection and delivery must be maintained during construction. If access for mail delivery is interrupted, Contractor shall furnish and assemble temporary collection and delivery boxes for each affected property at a central location, which will be determined by the Novi Postmaster. Mailboxes to be a type approved for use the U.S. Postmaster

CONTRACTOR PARKING

Contractor parking areas will be limited to public ROW areas only. Do not occupy open roadways with parked vehicles.

HYDRANT USE

The Contractor is required to contact the City's DPW facility at 248-735-5640 to make arrangements prior to use.

SAWCUTS

The Contractor shall sawcut the existing pavement at all removal limits as shown on plans or directed by Engineer to provide a smooth vertical edge. This will not be paid for separately, it is included in payment for removal items.

OPEN EXCAVATION

Protective fencing around all open excavations is required. This will not be paid for separately.

SLOPES

Class A slopes shall be constructed on this project.

DUST CONTROL

The Contractor is responsible for controlling dust on the project by whatever legal means on any aggregate or surfaces not restored as requested by the Engineer. This will not be paid for separately.

SURFACE RESTORATION

building and electrical standards.

See Project Manual.

BUILDINGS

All buildings and structures must be constructed to all applicable

TREE PROTECTION NOTES

ROOT PROTECTION

- 1. Any damage to tree roots is to be reported to the on-site construction observer or owner.
- 2. Do not drive or park any vehicle or equipment, store any materials, or wash any equipment or materials within the drip line of any tree. These or other actions within the drip line may be considered damage by the Engineer.
- 3. Conduct operations to minimize excavations adjacent to trees. Where required work exposes tree roots, place wet mulch or other approved materials as soon as possible. Consult with Engineer or City Forester prior to beginning work.

TREE PROTECTION BARRIER

- 1. All trees within the work zone shall have tree protection barrier installed prior to construction unless otherwise directed by the Engineer. Tree protection barrier ordered by the Engineer will be measured and paid for as silt fence.
- 2. Barrier to be silt fence material and placed for use as visual and physical tree protection barrier. It is not required that toe be buried or sections be overlapped as for soil erosion control.
- 3. Any damage to any tree is to be reported to the on-site construction observer or owner.
- Δ Contractor is responsible for any tree damage. Trees determined to be damaged in the opinion of the Engineer shall be replaced at the Contractor's expense.

SOIL EROSION AND SEDIMENTATION CONTROL

SEQUENCE OF CONSTRUCTION

- 1. Prior to removing pavement, sidewalk, or driveways, or commencing grading operation; place temporary SESC measures (inlet filters and silt fence). Engineer's approval of SESC measures must be obtained prior to excavation. Approval by the Engineer is also required for material stockpile and staging area locations. Material stockpiles shall be ringed with silt fence.
- 2. Installation of silt fencing or tree protection fencing shall not occur prior to the initial city pre-construction meeting. When natural features exist on the site, inspection of staking may be required prior to the installation of the fencing.
- During construction, maintain all temporary SESC measures. 3 When inlet convers are removed, inlet filters shall be lowered and remain on the structures at all times. Address any deficiencies in SESC measures immediately.
- 4 Within five days of the completion of paving, permanent seeding shall be placed.
- 5. Remove temporary SESC measures within one week of placing permanent seeding.

SESC NOTES

- 1. Contractor is responsible for installation and maintenance of all soil erosion and sedimentation control measures and for full compliance with the soil erosion and sedimentation control permit to be issued for the project.
- 2. Temporary soil erosion and sedimentation control measures shall include inlet filters and silt fence in this project. Inlet filters shall be ACF Environmental Silt Sack or approved equal. Silt Fencing shall be Synthetic Industries "Terra Tex", Exxon "GTF-180", or approved equal.
- 3. All SESC measures shall be constructed in accordance with the Oakland County details included in the plans.

- 4. Inlet filters shall be installed on all drainage inlet structures within the reconstruction limits and on structures downstream of the reconstruction area which, in the opinion of the Engineer, may receive runoff from the work area.
- 5. Silt fencing shall be installed at locations determined by the Engineer.
- 6. Temporary pumps, if required, shall be discharged into a filter bag or similar device. Contractor shall obtain advance approval from the Engineer for all dewatering operations and filter devices to be used.
- 7. Street sweeping and dust control shall be the responsibility of the Contractor, and shall be completed daily or as directed by the Engineer.
- 8. All drainage ditches shall be stabilized with erosion control blanket and shall utilize check dams as necessary. Drainage ditches steeper than 3% shall be sodded.
- 9. Permanent seeding, including topsoil, fertilizer, and mulch blankets shall be placed on all unpaved disturbed areas in accordance with the MDOT Standard Specifications. Seeding work shall be completed on each roadway within five days of the completion of paving work on that roadway.
- 10. Stockpile locations shall be ringed with silt fence. All stockpile locations shall be approved by the Engineer.

SOIL SURVEY

The soils in the proposed Salt Dome Rehabilitation area include:

- Marlette sandy loam, 6 to 12 percent slopes
- Sission fine sandy loam, 1 to 6 percent slopes
- Owosso sandy loam, 1 to 6 percent slopes
- Houghton and Adrian mucks .
- Udorthents, loamy, nearly level

IRRIGATION AND LANDSCAPE LIGHTING SYSTEMS

Contractor shall protect irrigation and landscape lighting systems from damage. If damaged, the Contractor shall restore all irrigation and landscape lighting systems at the Contractor's expense. See Project Manual for additional information.

SURVEY INFORMATION

CP 100 N: 359722.90 E: 13367493.26 Elev: 901.94

CP 101 N: 359905.13 E: 13367396.03 Elev: 903.99

CP 200 N: 359812.62 E: 13367619.07 Elev: 900.28

CP 201 N: 359691.45 E: 13367627.75 Elev: 902.11

CP 202 N: 359599.42 E: 13367611.89 Elev: 900.60

CP 203 N: 359579.27 E: 13367544.58

Elev: 902.35

BM 1 N: 359830.26 E: 13367387.54 Elev: 906.13

MDOT STANDARD PLANS

NOTES APPLYING TO STANDARD PLANS

Where the following items are called for on plans, they are to be constructed according to the standard plan given below opposite each item unless otherwise indicated

Title	Plan No.
ROAD	
INTEGRAL CURB AND INTEGRAL CURB & GUTTER	R-31
CONCRETE SHOULDER GUTTER AND SPILLWAY	R-35
TYPICAL JOINT LAYOUTS FOR CONCRETE PAVEMENT	R-42
SEEDING AND TREE PLANTING	R-100







INC	VI
SALT DOME RECONSTRUCTION	GENERAL NOTES
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QUANTITY SHEET

ltem			Total	Misc As	Novi Salt
No.	Item Description	Unit	Quantity	Directed	Dome
1	Mobilization, Max 10%	LSUM	1	1	0
2	Pre-Construction Audio-Visual	LSUM	1	1	0
3	Erosion Control, Silt Fence	Ft	200	200	0
4	Erosion Control, Inlet Protection, Fabric Drop	Ea	4	4	0
5	Pavt, Rem, Modified	Syd	388		388
6	HMA Surface, Rem, Modified	Syd	341		341
7	Curb and Gutter, Rem, Modified	Ft	89		89
8	Conc Pavt with Intergral Curb, Nonreinf, 12 inch	Syd	731		731
9	Aggregate Base, 21AA, Limestone, 8 inch	Syd	738		738
10	Spillway, Conc	Ft	10		10
11	Riprap, Plain	Syd	8		8
12	Pipe Bollard	Ea	2		2
13	Salt Dome, Rem	LSUM	1		1
14	Salt Dome, 82' Diameter w/ 10' Wall	LSUM	1		1
15	Conveyor System Furnish and Install	LSUM	1		1
16	Conduit, Schedule 80 PVC, 2 inch	Ft	300		300
17	Conduit, RGS,1-1/4 inch	Ft	100		100
18	DB Cable, in Conduit, 600V, 1/C#3	Ft	2025		2025
19	Cable, Equipment Grounding Wire, 1/C#8	Ft	675		675
20	Combination Starter/Non-Fusible Disconnect Switch	Ea	1		1
21	Fusible Disconnect Switch	Ea	1		1
22	Conc, Grade 3500	Cyd	152		152
23	Reinforcement, Steel, Epoxy Coated	Lb	14718		14718
24	Excavation, Fdn	Cyd	950	710	240
25	Backfill, Structure, CIP	Cyd	378	265	113
26	Embankment Structure, CIP	Cyd	475	475	0
27	Maintaining Traffic	LSUM	1	1	
28	Surface Restoration	LSUM	1	1	

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Instruction Instruction Instruction SITE PLAN REMOVAL Instruction Instruction
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PLAN OF WALL





ELEVATION OF NORTH WALL



ELEVATION OF SOUTH WALL





ELEVATION OF EAST WALL



SECTION A-A (SECTION B-B OPPOSITE HAND)



TYPICAL CROSS SECTION

				FILE: Sdit_Dome_Plan_006.dgn AUTH DATE REVISION		
				NOVI SALT DOME RECONSTRUCTION	WALL AND FOOTING ELEVATION & CROSS SECTION	
0	VERT. (FT)	5 ∏	607 09/	јов 28767 Ате 23/24 НЕЕТ	

- TOP OF EXISTING AND PROPOSED GROUND

DAD				BAR DIMENSION	S				WEIGHT
DAR	а	b	С	d	e	f	g	NUMBER	
EA060906	9'-6"							124	1769
EA061304	13'-4"							32	641
EA063307	33'-7"							16	807
EA063507	35'-7"							32	1710
EB060900	4'-6"	4'-6"						16	216
EB061006	9'-6"	1'-0"						118	1861
EB064608	45'-7"	1'-1"						44	3084
EC061206	3'-0"	4'-0"	3'-0"	3'-0"	4'-3"	3'-0"	4'-3"	16	300
ED061108	1'-1"	9'-6"	1'-1"					176	3084
ED063708	1'-1"	35'-6"	1'-1"					22	1245





D

EPOXY COATED BAR SIZE BAR LENGTH (FT) BAR LENGTH (IN) EA064700 BAR SHAPE **BAR LEGEND**

- Cyd Excavation, Fdn 750 378 Cyd Backfill, Structure, CIP 275 Cyd Embankment, Structure, CIP
- 152 Cyd Conc, Grade 3500HP Lb Reinforcement, Steel, Epoxy Coated
- 14718



NOTE: WHERE OPTIONAL CONSTRUCTION JOINTS ARE USED, THERE WILL BE NO PAYMENT FOR THE REQUIRED JOINT WATERPROOFING. NOTES:

AND STRESSES: CONC GRADE 3500HP

THE DESIGN OF THE RETAINING WALL WAS PERFORMED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION AND THE CONDITION THAT FILL BEING RETAINED BY THE RETAINING WALL DOES NOT EXTEND ABOVE THE TOP OF THE WALL BASED ON A FILL UNIT WEIGHT OF 120 PCF AND A COEFFICIENT OF EARTH PRESSURE OF 0.50.

UNLESS OTHERWISE SHOWN ON THE PLANS, PROVIDE MINIMUM CONCRETE CLEAR COVER FOR REINFORCEMENT ACCORDING TO THE FOLLOWING: CONCRETE CAST AGAINST EARTH: 3 INCH ALL OTHER UNLESS SHOWN ON PLANS: 2 INCH

BEVEL ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS WITH $\frac{1}{2}$ " TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.

RELOCATION WILL NOT BE DISTURBED.

THE RETAINING WALL MAXIMUM FOUNDATION PRESSURES ARE CALCULATED TO BE 1374 PSF FOR SERVICE LIMIT STATE BASED ON AN EFFECITIVE FOOTING WIDTH OF 8.8 FEET, AND 1822 PSF FOR STRENGTH LIMIT STATE BASED ON AN EFFECITIVE FOOTING WIDTH OF 8.7 FEET.

CONTACT THE GEOTECHNICAL ENGINEER AT LEAST 48 HOURS PRIOR TO EXCAVATING FOR THE RETAINING WALL FOOTING. THE ACTUAL DEPTH OF EXCAVATION WILL BE DETERMINED BY THE GEOTECHNICAL ENGINEER.



UNDERCUT SOIL CLASSIFIED AS ORGANIC AND REPLACE WITH "EMBANKMENT, STRUCTURE, CIP" COMPACTED TO 100 PERCENT OF MAXIMUM UNIT WEIGHT. THE ENGINEER WILL DETERMINE ACTUAL LIMITS OF EXCAVATION AT THE TIME OF CONSTRUCTION.

THE DESIGN OF THE RETAINING WALL IS BASED ON THE MATERIAL OF THE FOLLOWING GRADES

E'C = 3000 PSI STEEL REINFORCEMENT FY = 60,000 PSI

LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND CONDUICT OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THOSE UTILTIES NOT REQUIRING

ON REVIS DATE AUTH AECOM NOV **RETAINING WALL BAR CHART & NOTES** NOVI SALT DOME RECONSTRUCTION

JOB 60728767 DATE 09/23/24

> SHEET 12

NO SCALE





NOTES:

- COMPLETE INSTALLATION.

- 6.
- 7. RELAYS AT 125% OF MOTOR NAMEPATE RATED FULL-LOAD AMPS.
- 8. CONDUCTOR TO INSULATED.
- ELECTRICAL CODE





EQUIPMENT ARRANGEMENT AND EXACT REQUIREMENTS INCLUDING CLEARANCES FOR ACCESS AND MAINTENANCE TO BE BASED ON CONVERYOR SYSTEM PROPOSED BY CONTRACTOR. COORDINATE ELECTRICAL REQUIREMENTS AND INSTALLATION WITH CONVEYOR CONTRACTOR. PROVIDE COMBINATION STARTER/DISCONNECT SWITCH, POWER, RACEWAY, AND INTERCONNECT WIRING AS REQUIRED FOR

2. COORDINATE ALL SITE WORK WITH EXISTING UNDERGROUND UTILITIES.

3. PROPOSED SALT DOME CONVEYOR SYSTEM TO MEET THE FOLLOWING ELECTRICAL REQUIREMENTS: 480V/3Ø WITH A MAXIMUM CIRCUIT SIZE OF 100A. CONVEYOR SYSTEM TO BE FED FROM THE EXISTING SQUARE D QED MAIN DISTRIBUTION PANEL "A" (MDP-A) LOCATED IN THE EXISTING VEHICULAR STORAGE BUILDING. OWNER TO TO PROVIDE A 100A FUSIBLE SWITCH & FUSES IN THE EX DISTRIBUTION PANEL AND INSTALL EMPTY RACEWAY FROM THE EX MDP-A TO THE INSIDE OF THE EXTERIOR WALL AS SHOWN ON THE PLANS. CONTRACTOR TO INSTALL WIRING, COORDINATE EXACT REQUIREMENTS WITH OWNER.

4. INSTALL PROPOSED CONVEYOR ELECTRICAL RACEWAY FROM THE VEHICLE STORAGE BUILDING TO THE SALT DOME AS SHOWN ON THE PLANS. PROVIDE ALL NECESSARY RACEWAYS, BOXES, SLEEVES, FITTINGS, ETC AS REQUIRED FOR A COMPLETE SYSTEM INSTALLATION.

5. SEAL ALL CONDUIT PENETRATIONS INTO BUILDING WITH A URETHANE FOAM SEALANT AROUND CONDUIT. CAULK ALL JOINTS FOR A WATERTIGHT SEAL. FIRESTOP ALL PENETRATIONS AS REQUIRED.

PROVIDE A 600 VOLT RATED, HEAVY DUTY TYPE, FUSIBLE DISCONNECT SWITCH IN A NEMA 4X STANLESS STEEL ENCLOSURE FOR SALT DOME CONVEYOR SYSTEM. SAFTEY SWITCH TO BE NEMA SIZED FOR CONVEYOR MOTOR HORSEPOWER. SWITCH TO HAVE QUICK-MAKE, QUICK-BREAK OPERATING MECHANISM, INTERLOCKED HINGED COVER WITH BLADES VISIBLE IN THE "OFF" POSITION WITH COVER OPEN, PADLOCKABLE IN THE "OFF" AND "ON" POSITIONS AND HAVE CLASS R FUSE REJECTION CLIPS. SWITCH TO INCLUDE EQUIPMENT GROUND KIT. PROVIDE 80A DUAL-ELEMENT, TIME-DELAY CLASS RK5 FUESES

PROVIDE A 600 VOLT RATED, HEAVY DUTY TYPE, NON-REVERSING COMBINATION MAGNETIC MOTOR STARTER /NON-FUSIBLE DISCONNECT SWITCH IN A NEMA 4X STANLESS STEEL ENCLOSURE FOR SALT DOME CONVEYOR MOTOR, MAGNETIC STARTER TO HAVE 120V RATED COIL AND NEMA SIZED FOR MOTOR HORSEPOWER, SWITCH TO HAVE FLANGE-OPERATED HANDLE WITH BLADES VISIBLE IN THE "OFF" POSITION WITH DOOR OPEN, PADLOCKABLE IN THE "OFF" AND "ON" POSITIONS. STARTER TO INCLUDE HAND-OFF-AUTO SWITCH, RED PILOT LIGHT, AND START-STOP PUSH BUTTON IN COVER. PROVIDE ONE SET OF SPARE NORMALLY OPEN AND NORMALLY AUXILIARY CONTACTS IN ADDITION TO THE STANDARD CONTACTS SUPPLIED WITH THE STARTER. SIZE OVERLOAD

CONDUCTORS TO BE STRANDED COPPER, WITH 600-VOLT INSULATION, RATED FOR 75-DEGREES C OPERATING TEMPERATURE, TYPE RHH/RHW. MINIMUM CONDUCTOR SIZE TO BE #12 AWG. EQUIPMENT GROUNDING

9. IDENTIFY EQUIPMENT DISCONNECT SWITCH WITH A PERMANENT NAME PLATE PER NEC. NAME PLATE TO BE 1/8 INCH THICK , 5-PLY LAMACOID PLAQUE HAVING 3/4 INCH HIGH BLACK LETTERS ON A WHITE BACKGROUND.

10. ALL WORK TO BE IN ACCORDANCE WITH ANSI/NFPA 70 (NATIONAL ELECTRICAL CODE) AND THE MICHIGAN

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